SEQUENCE LISTING

<110> WEREWOLF THERAPEUTICS, INC.

<120> ACTIVATABLE CYTOKINE POLYPEPTIDES AND METHODS OF USE THEREOF

<130> 761146.000146

<140>
<141>

<150> 62/935,605
<151> 2019-11-14

<160> 647

<170> PatentIn version 3.5

<210> 1
<211> 153
<212> PRT
<213> Homo sapiens

<400> 1
Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
1 5 10 15

Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
20 25 30

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
35 40 45

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
50 55 60

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
65 70 75 80

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
85 90 95

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
100 105 110

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
115 120 125

```
Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
    130                 135                 140

Cys Gln Ser Ile Ile Ser Thr Leu Thr
145                 150

<210> 2
<211> 609
<212> PRT
<213> Homo sapiens

<400> 2
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1               5                   10                  15

Tyr Ser Arg Gly Val Phe Arg Arg Asp Ala His Lys Ser Glu Val Ala
            20                  25                  30

His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu
        35                  40                  45

Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val
    50                  55                  60

Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp
65                  70                  75                  80

Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
                85                  90                  95

Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala
            100                 105                 110

Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
        115                 120                 125

His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val
    130                 135                 140

Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys
145                 150                 155                 160
```

```
Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
                165                 170                 175

Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys
            180                 185                 190

Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu
        195                 200                 205

Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Gly Leu Lys Cys
    210                 215                 220

Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
225                 230                 235                 240

Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser
                245                 250                 255

Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly
            260                 265                 270

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile
        275                 280                 285

Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu
    290                 295                 300

Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp
305                 310                 315                 320

Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Gly Ser
                325                 330                 335

Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
            340                 345                 350

Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val
        355                 360                 365
```

```
Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys
    370                 375                 380

Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu
385                 390                 395                 400

Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys
                405                 410                 415

Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu
            420                 425                 430

Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val
        435                 440                 445

Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His
    450                 455                 460

Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Cys Leu Ser Val Phe
465                 470                 475                 480

Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg
                485                 490                 495

Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Gly Arg Pro Cys Phe
            500                 505                 510

Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala
        515                 520                 525

Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu
    530                 535                 540

Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys
545                 550                 555                 560

Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala
                565                 570                 575

Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe
            580                 585                 590
```

```
Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly
        595                 600                 605


Leu



<210> 3
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      MMP7 cleavage domain sequence"

<400> 3
Lys Arg Ala Leu Gly Leu Pro Gly
1               5


<210> 4
<211> 40
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      MMP7 cleavage domain sequence"

<400> 4
Asp Glu Asp Glu Asp Glu Asp Glu Asp Glu Asp Glu Asp Glu Asp Glu
1               5                   10                  15


Arg Pro Leu Ala Leu Trp Arg Ser Asp Arg Asp Arg Asp Arg Asp Arg
            20                  25                  30


Asp Arg Asp Arg Asp Arg Asp Arg
        35                  40


<210> 5
<211> 5
<212> PRT
<213> Unknown

<220>
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<221> source
<223> /note="Description of Unknown:
MMP9 cleavage domain sequence"

<220>
<221> VARIANT
<222> (3)..(3)
<223> /replace="Thr"

<220>
<221> VARIANT
<222> (4)..(4)
<223> /replace="Ile"

<220>
<221> VARIANT
<222> (5)..(5)
<223> /replace="Thr"

<220>
<221> SITE
<222> (1)..(5)
<223> /note="Variant residues given in the sequence have no
preference with respect to those in the annotations
for variant positions"

<400> 5
Pro Arg Ser Leu Ser
1 5

<210> 6
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP9 cleavage domain sequence"

<400> 6
Leu Glu Ala Thr Ala
1 5

<210> 7
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source

<223> /note="Description of Unknown:
MMP11 cleavage domain sequence"

<400> 7
Gly Gly Ala Ala Asn Leu Val Arg Gly Gly
1 5 10

<210> 8
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP14 cleavage domain sequence"

<400> 8
Ser Gly Arg Ile Gly Phe Leu Arg Thr Ala
1 5 10

<210> 9
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 9
Pro Leu Gly Leu Ala Gly
1 5

<210> 10
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Any amino acid

<400> 10
Pro Leu Gly Leu Ala Xaa
1 5

<210> 11
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Cys(me)

<400> 11
Pro Leu Gly Xaa Ala Gly
1 5

<210> 12
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 12
Glu Ser Pro Ala Tyr Tyr Thr Ala
1 5

<210> 13
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 13
Arg Leu Gln Leu Lys Leu
1 5

<210> 14
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 14
Arg Leu Gln Leu Lys Ala Cys
1 5

<210> 15
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP2, MMP9, MMP14 cleavage domain sequence"

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Cit

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Hof

<400> 15
Glu Pro Xaa Gly Xaa Tyr Leu
1 5

<210> 16
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Urokinase plasminogen activator (uPA) cleavage domain"
sequence

<400> 16
Ser Gly Arg Ser Ala
1 5

<210> 17
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Urokinase plasminogen activator (uPA) cleavage domain"
sequence

<400> 17
Asp Ala Phe Lys
1

<210> 18
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Urokinase plasminogen activator (uPA) cleavage domain"
sequence

<400> 18
Gly Gly Gly Arg Arg
1 5

<210> 19
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Lysosomal Enzyme cleavage domain sequence"

<400> 19
Gly Phe Leu Gly
1

<210> 20
<211> 4

<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Lysosomal Enzyme cleavage domain sequence"

<400> 20
Ala Leu Ala Leu
1

<210> 21
<211> 2
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Lysosomal Enzyme cleavage domain sequence"

<400> 21
Phe Lys
1

<210> 22
<211> 3
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Cathepsin B cleavage domain sequence"

<400> 22
Asn Leu Leu
1

<210> 23
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Cathepsin D cleavage domain sequence"

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Cys(Et)

<400> 23
Pro Ile Xaa Phe Phe
1 5

<210> 24
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Cathepsin K cleavage domain sequence"

<400> 24
Gly Gly Pro Arg Gly Leu Pro Gly
1 5

<210> 25
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Prostate Specific Antigen cleavage domain sequence"

<400> 25
His Ser Ser Lys Leu Gln
1 5

<210> 26
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Prostate Specific Antigen cleavage domain sequence"

<400> 26
His Ser Ser Lys Leu Gln Leu
1 5

<210> 27
<211> 9
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Prostate Specific Antigen cleavage domain sequence"

<400> 27
His Ser Ser Lys Leu Gln Glu Asp Ala
1 5

<210> 28
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Herpes Simplex Virus Protease cleavage domain"
sequence

<400> 28
Leu Val Leu Ala Ser Ser Ser Phe Gly Tyr
1 5 10

<210> 29
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
HIV Protease cleavage domain sequence"

<400> 29
Gly Val Ser Gln Asn Tyr Pro Ile Val Gly
1 5 10

<210> 30
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source

<223> /note="Description of Unknown:
CMV Protease cleavage domain sequence"

<400> 30
Gly Val Val Gln Ala Ser Cys Arg Leu Ala
1 5 10

<210> 31
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Thrombin cleavage domain sequence"

<220>
<221> MOD_RES
<222> (2)..(2)
<223> 2-carboxy piperdine

<400> 31
Phe Xaa Arg Ser
1

<210> 32
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Thrombin cleavage domain sequence"

<400> 32
Asp Pro Arg Ser Phe Leu
1 5

<210> 33
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Thrombin cleavage domain sequence"

<400> 33
Pro Pro Arg Ser Phe Leu
1 5

<210> 34
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Caspase-3 cleavage domain sequence"

<400> 34
Asp Glu Val Asp
1

<210> 35
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Caspase-3 cleavage domain sequence"

<400> 35
Asp Glu Val Asp Pro
1 5

<210> 36
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Caspase-3 cleavage domain sequence"

<400> 36
Lys Gly Ser Gly Asp Val Glu Gly
1 5

<210> 37
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Interleukin 1-beta converting enzyme cleavage domain"
sequence

<400> 37
Gly Trp Glu His Asp Gly
1 5

<210> 38
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Enterokinase cleavage domain sequence"

<400> 38
Glu Asp Asp Asp Asp Lys Ala
1 5

<210> 39
<211> 9
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
FAP cleavage domain sequence"

<400> 39
Lys Gln Glu Gln Asn Pro Gly Ser Thr
1 5

<210> 40
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Kallikrein 2 cleavage domain sequence"

<400> 40
Gly Lys Ala Phe Arg Arg

1 5

<210> 41
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Plasmin cleavage domain sequence"

<400> 41
Asp Ala Phe Lys
1

<210> 42
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Plasmin cleavage domain sequence"

<400> 42
Asp Val Leu Lys
1

<210> 43
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Plasmin cleavage domain sequence"

<400> 43
Asp Ala Phe Lys
1

<210> 44
<211> 7
<212> PRT
<213> Unknown

<220>

<221> source
<223> /note="Description of Unknown:
TOP cleavage domain sequence"

<400> 44
Ala Leu Leu Leu Ala Leu Leu
1 5

<210> 45
<211> 652
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 45
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
20 25 30

Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
85 90 95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
100 105 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
130 135 140

```
His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
145                 150                 155                 160

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro
                165                 170                 175

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
            180                 185                 190

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
        195                 200                 205

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
    210                 215                 220

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
225                 230                 235                 240

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser
                245                 250                 255

Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            260                 265                 270

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        275                 280                 285

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    290                 295                 300

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
305                 310                 315                 320

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                325                 330                 335

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            340                 345                 350
```

```
Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        355                 360                 365

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    370                 375                 380

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
                405                 410                 415

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
            420                 425                 430

Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro
        435                 440                 445

Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr
    450                 455                 460

Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn
465                 470                 475                 480

Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
                485                 490                 495

Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp
            500                 505                 510

Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
    530                 535                 540

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
545                 550                 555                 560

Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln
                565                 570                 575
```

```
Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe
            580                 585                 590

Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
        595                 600                 605

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
    610                 615                 620

Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly
625                 630                 635                 640

Thr Lys Val Glu Ile Lys His His His His His His
                645                 650
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<210> 46
<211> 652
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 46

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Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
            20                  25                  30

Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
```

```
                85                  90                  95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
            100                 105                 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        115                 120                 125

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    130                 135                 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser
145                 150                 155                 160

Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                165                 170                 175

Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val
            180                 185                 190

Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
        195                 200                 205

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
    210                 215                 220

Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr
225                 230                 235                 240

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                245                 250                 255

Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu
            260                 265                 270

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln
        275                 280                 285

Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala
    290                 295                 300
```

```
Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro
305                 310                 315                 320

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
                325                 330                 335

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr
            340                 345                 350

Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
        355                 360                 365

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
    370                 375                 380

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
385                 390                 395                 400

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
                405                 410                 415

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
            420                 425                 430

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
        435                 440                 445

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
    450                 455                 460

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
465                 470                 475                 480

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
                485                 490                 495

Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
            500                 505                 510

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
```

```
        515                 520                 525

His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
    530                 535                 540

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro
545                 550                 555                 560

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
                565                 570                 575

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
            580                 585                 590

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
        595                 600                 605

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
    610                 615                 620

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser
625                 630                 635                 640

Ile Ile Ser Thr Leu Thr His His His His His His
                645                 650
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<210> 47
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 47

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30
```

```
Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                245                 250                 255
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
            260                 265                 270

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser
        275                 280                 285

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
    290                 295                 300

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
305                 310                 315                 320

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
                325                 330                 335

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
            340                 345                 350

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
        355                 360                 365

Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
    370                 375                 380

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
385                 390                 395                 400

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
                405                 410                 415

Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
            420                 425                 430

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
        435                 440                 445

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
    450                 455                 460
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
465                 470                 475                 480


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
                485                 490                 495


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
            500                 505                 510


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
        515                 520                 525


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
    530                 535                 540


Val Ser Ser His His His His His His
545                 550


<210> 48
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 48
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80
```

```
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln
            260                 265                 270

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
        275                 280                 285

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
```

```
    290                 295                 300

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
305                 310                 315                 320

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
                325                 330                 335

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
            340                 345                 350

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
        355                 360                 365

Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
    370                 375                 380

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
385                 390                 395                 400

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro
                405                 410                 415

Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu
            420                 425                 430

Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro
        435                 440                 445

Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
    450                 455                 460

Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
465                 470                 475                 480

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
                485                 490                 495

Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
            500                 505                 510
```

```
Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
        515                 520                 525


Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
    530                 535                 540


Thr Leu Thr His His His His His His
545                 550


<210> 49
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 49
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125
```

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys His His His His His His
545                 550
```

<210> 50
<211> 682
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 50
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
20 25 30

Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
85 90 95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
100 105 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
115 120 125

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
130 135 140

His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
145 150 155 160

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro

```
                165                 170                 175

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
            180                 185                 190

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
        195                 200                 205

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
    210                 215                 220

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
225                 230                 235                 240

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser
                245                 250                 255

Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            260                 265                 270

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        275                 280                 285

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    290                 295                 300

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
305                 310                 315                 320

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                325                 330                 335

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            340                 345                 350

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        355                 360                 365

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    370                 375                 380
```

```
Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                405                 410                 415

Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            420                 425                 430

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        435                 440                 445

Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    450                 455                 460

Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys
465                 470                 475                 480

Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser
                485                 490                 495

Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
            500                 505                 510

Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
        515                 520                 525

Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp
    530                 535                 540

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
545                 550                 555                 560

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
                565                 570                 575

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
            580                 585                 590

Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys
```

595 600 605

Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr
610 615 620

Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
625 630 635 640

Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
645 650 655

Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys
660 665 670

Val Glu Ile Lys His His His His His His
675 680

<210> 51
<211> 667
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 51
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
20 25 30

Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65 70 75 80

```
Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
                85                  90                  95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
            100                 105                 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        115                 120                 125

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
    130                 135                 140

His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
145                 150                 155                 160

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro
                165                 170                 175

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
            180                 185                 190

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
        195                 200                 205

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
    210                 215                 220

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
225                 230                 235                 240

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser
                245                 250                 255

Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            260                 265                 270

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        275                 280                 285

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    290                 295                 300
```

```
Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
305                 310                 315                 320

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                325                 330                 335

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            340                 345                 350

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        355                 360                 365

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    370                 375                 380

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                405                 410                 415

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510
```

```
Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly
    530                 535                 540

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys His His His His His His
            660                 665
```

<210> 52
<211> 682
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 52

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15
```

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
```

```
225                 230                 235                 240

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
                325                 330                 335

Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            420                 425                 430

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
        435                 440                 445
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
    450                 455                 460

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
465                 470                 475                 480

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
                485                 490                 495

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
            500                 505                 510

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
        515                 520                 525

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
    530                 535                 540

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala
                565                 570                 575

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser
            580                 585                 590

Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu
        595                 600                 605

Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser
    610                 615                 620

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val
625                 630                 635                 640

Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr
                645                 650                 655

Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val
```

660 665 670

Thr Val Ser Ser His His His His His His
675 680

<210> 53
<211> 393
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 53
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

```
Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        195                 200                 205

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    210                 215                 220

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
225                 230                 235                 240

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                245                 250                 255

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            260                 265                 270

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        275                 280                 285

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    290                 295                 300

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
305                 310                 315                 320

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                325                 330                 335

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            340                 345                 350

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        355                 360                 365
```

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
370 375 380

Glu Ile Lys His His His His His His
385 390

<210> 54
<211> 423
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 54
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly

```
    130                 135                 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
                325                 330                 335

Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350
```

```
Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys His His His His His His
            420


<210> 55
<211> 682
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 55
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95
```

```
Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300
```

```
Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
                325                 330                 335

Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
            420                 425                 430

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
        435                 440                 445

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
    450                 455                 460

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
465                 470                 475                 480

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
                485                 490                 495

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
            500                 505                 510

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
        515                 520                 525
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
    530                 535                 540

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala
                565                 570                 575

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser
            580                 585                 590

Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu
        595                 600                 605

Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser
    610                 615                 620

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val
625                 630                 635                 640

Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr
                645                 650                 655

Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val
            660                 665                 670

Thr Val Ser Ser His His His His His His
        675                 680
```

<210> 56
<211> 682
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 56
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala Gln Ala Gly Gly

```
1               5                   10                  15

Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asn Ser
            20                  25                  30

Val Met Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln Arg Glu Phe Val
        35                  40                  45

Ala Ile Ile Asn Ser Val Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Val Cys Asn
                85                  90                  95

Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr Gln Val Thr Val
            100                 105                 110

Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        115                 120                 125

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    130                 135                 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser
145                 150                 155                 160

Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                165                 170                 175

Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val
            180                 185                 190

Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
        195                 200                 205

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
    210                 215                 220
```

```
Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr
225                 230                 235                 240

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                245                 250                 255

Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu
            260                 265                 270

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln
        275                 280                 285

Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala
    290                 295                 300

Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro
305                 310                 315                 320

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
                325                 330                 335

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr
            340                 345                 350

Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
        355                 360                 365

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    370                 375                 380

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly
385                 390                 395                 400

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln
                405                 410                 415

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
            420                 425                 430

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
```

```
        435                 440                 445

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
    450                 455                 460

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
465                 470                 475                 480

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
                485                 490                 495

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
            500                 505                 510

Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
        515                 520                 525

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala
    530                 535                 540

Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu
545                 550                 555                 560

Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn
                565                 570                 575

Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys
            580                 585                 590

Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro
        595                 600                 605

Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg
    610                 615                 620

Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys
625                 630                 635                 640

Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr
                645                 650                 655
```

```
Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile
            660                 665                 670


Ser Thr Leu Thr His His His His His His
        675                 680


<210> 57
<211> 393
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 57
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110


Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125


Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140
```

```
Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Ser
225                 230                 235                 240

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro
                245                 250                 255

Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu
            260                 265                 270

Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro
        275                 280                 285

Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
    290                 295                 300

Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
305                 310                 315                 320

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
                325                 330                 335

Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
            340                 345                 350
```

```
Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
        355                 360                 365


Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
    370                 375                 380


Thr Leu Thr His His His His His His
385                 390


<210> 58
<211> 423
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 58
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110


Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125
```

```
Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
            260                 265                 270

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser
        275                 280                 285

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
    290                 295                 300

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
305                 310                 315                 320

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
                325                 330                 335

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
```

```
            340                 345                 350

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
        355                 360                 365

Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
    370                 375                 380

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
385                 390                 395                 400

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
                405                 410                 415

Thr His His His His His His
            420
```

<210> 59
<211> 669
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 59

```
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
            20                  25                  30

Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80
```

```
Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
                85                  90                  95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
            100                 105                 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        115                 120                 125

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
    130                 135                 140

His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
145                 150                 155                 160

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro
                165                 170                 175

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
            180                 185                 190

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
        195                 200                 205

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
    210                 215                 220

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
225                 230                 235                 240

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser
                245                 250                 255

Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            260                 265                 270

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        275                 280                 285

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    290                 295                 300
```

```
Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
305                 310                 315                 320

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                325                 330                 335

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            340                 345                 350

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        355                 360                 365

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    370                 375                 380

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu
                405                 410                 415

Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr Ser Val Lys Val
            420                 425                 430

Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr Leu Ile Glu Trp
        435                 440                 445

Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Val Ile Asn
    450                 455                 460

Pro Gly Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala
465                 470                 475                 480

Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser
                485                 490                 495

Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp Arg
            500                 505                 510
```

```
Gly Asp Gly Tyr Tyr Ala Tyr Phe Asp Val Trp Gly Ala Gly Thr Thr
        515                 520                 525

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    530                 535                 540

Gly Gly Gly Ser Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala
545                 550                 555                 560

Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser
                565                 570                 575

Val Asp Tyr Asp Gly Asp Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Gln Pro Pro Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser
        595                 600                 605

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Ser Asn Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
                645                 650                 655

Glu Ile Lys His His His His His His Glu Pro Glu Ala
            660                 665
```

<210> 60
<211> 669
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 60

```
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1               5                   10                  15
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
            20                  25                  30

Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
                85                  90                  95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
            100                 105                 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        115                 120                 125

Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu
    130                 135                 140

His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr
145                 150                 155                 160

Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro
                165                 170                 175

Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu
            180                 185                 190

Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His
        195                 200                 205

Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu
    210                 215                 220

Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr
```

```
225                 230                 235                 240

Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser
                245                 250                 255

Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            260                 265                 270

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        275                 280                 285

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    290                 295                 300

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
305                 310                 315                 320

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                325                 330                 335

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            340                 345                 350

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        355                 360                 365

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    370                 375                 380

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Leu
                405                 410                 415

Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg Ala Thr
            420                 425                 430

Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp Ser Tyr
        435                 440                 445
```

```
Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
    450                 455                 460

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
465                 470                 475                 480

Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His Pro Val Glu Glu
                485                 490                 495

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu Asp Pro Tyr
            500                 505                 510

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser
        515                 520                 525

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Gln
    530                 535                 540

Ser Gly Ala Glu Leu Val Arg Pro Gly Thr Ser Val Lys Val Ser Cys
545                 550                 555                 560

Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr Leu Ile Glu Trp Val Lys
                565                 570                 575

Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Val Ile Asn Pro Gly
            580                 585                 590

Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu
        595                 600                 605

Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu
    610                 615                 620

Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp Arg Gly Asp
625                 630                 635                 640

Gly Tyr Tyr Ala Tyr Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr
                645                 650                 655

Val Ser Ser His His His His His His Glu Pro Glu Ala
```

660 665

<210> 61
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 61
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145 150 155 160

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
                165                 170                 175

Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr Ser Val Lys
            180                 185                 190

Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr Leu Ile Glu
        195                 200                 205

Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Val Ile
    210                 215                 220

Asn Pro Gly Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys
225                 230                 235                 240

Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu
                245                 250                 255

Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp
            260                 265                 270

Arg Gly Asp Gly Tyr Tyr Ala Tyr Phe Asp Val Trp Gly Ala Gly Thr
        275                 280                 285

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    290                 295                 300

Gly Gly Gly Gly Ser Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu
305                 310                 315                 320

Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln
                325                 330                 335

Ser Val Asp Tyr Asp Gly Asp Ser Tyr Met Asn Trp Tyr Gln Gln Lys
            340                 345                 350

Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu Glu
        355                 360                 365

Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
    370                 375                 380
```

```
Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr
385                 390                 395                 400

Cys Gln Gln Ser Asn Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr Lys
                405                 410                 415

Leu Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
        435                 440                 445

Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
    450                 455                 460

Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
465                 470                 475                 480

Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala
                485                 490                 495

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr
            500                 505                 510

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val
        515                 520                 525

Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr
    530                 535                 540

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
545                 550                 555                 560

Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu
                565                 570                 575

Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg
            580                 585                 590
```

```
Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys
        595                 600                 605


Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr
    610                 615                 620


Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
625                 630                 635                 640


Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly
                645                 650                 655


Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly
            660                 665                 670


Thr Gln Val Thr Val Ser Ser His His His His His His Glu Pro Glu
        675                 680                 685


Ala
```

<210> 62
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 62

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60
```

```
Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val
                165                 170                 175

Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg Ala
            180                 185                 190

Thr Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp Ser
        195                 200                 205

Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu
    210                 215                 220

Ile Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser
225                 230                 235                 240

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His Pro Val Glu
                245                 250                 255

Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu Asp Pro
            260                 265                 270

Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Gly
```

```
        275                 280                 285

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln
    290                 295                 300

Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr Ser Val Lys Val Ser
305                 310                 315                 320

Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr Leu Ile Glu Trp Val
                325                 330                 335

Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Val Ile Asn Pro
            340                 345                 350

Gly Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr
        355                 360                 365

Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser
    370                 375                 380

Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp Arg Gly
385                 390                 395                 400

Asp Gly Tyr Tyr Ala Tyr Phe Asp Val Trp Gly Ala Gly Thr Thr Val
                405                 410                 415

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
        435                 440                 445

Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
    450                 455                 460

Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
465                 470                 475                 480

Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala
                485                 490                 495
```

```
Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr
            500                 505                 510

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val
        515                 520                 525

Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr
    530                 535                 540

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
545                 550                 555                 560

Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu
                565                 570                 575

Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg
            580                 585                 590

Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys
        595                 600                 605

Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr
    610                 615                 620

Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
625                 630                 635                 640

Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly
                645                 650                 655

Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly
            660                 665                 670

Thr Gln Val Thr Val Ser Ser His His His His His His Glu Pro Glu
        675                 680                 685

Ala
```

<210> 63

<211> 272
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
IL2Ra sequence"

<400> 63
Met Asp Ser Tyr Leu Leu Met Trp Gly Leu Leu Thr Phe Ile Met Val
1 5 10 15

Pro Gly Cys Gln Ala Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro
20 25 30

His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn
35 40 45

Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr
50 55 60

Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys
65 70 75 80

Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro
85 90 95

Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro
100 105 110

Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro
115 120 125

Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val
130 135 140

Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His
145 150 155 160

Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg
165 170 175

```
Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln
            180                 185                 190


Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu
        195                 200                 205


Ser Glu Thr Ser Cys Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr
    210                 215                 220


Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln
225                 230                 235                 240


Val Ala Val Ala Gly Cys Val Phe Leu Leu Ile Ser Val Leu Leu Leu
                245                 250                 255


Ser Gly Leu Thr Trp Gln Arg Arg Gln Arg Lys Ser Arg Arg Thr Ile
            260                 265                 270


<210> 64
<211> 551
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      IL2Rb sequence"

<400> 64
Met Ala Ala Pro Ala Leu Ser Trp Arg Leu Pro Leu Leu Ile Leu Leu
1               5                   10                  15


Leu Pro Leu Ala Thr Ser Trp Ala Ser Ala Ala Val Asn Gly Thr Ser
            20                  25                  30


Gln Phe Thr Cys Phe Tyr Asn Ser Arg Ala Asn Ile Ser Cys Val Trp
        35                  40                  45


Ser Gln Asp Gly Ala Leu Gln Asp Thr Ser Cys Gln Val His Ala Trp
    50                  55                  60


Pro Asp Arg Arg Arg Trp Asn Gln Thr Cys Glu Leu Leu Pro Val Ser
65                  70                  75                  80
```

```
Gln Ala Ser Trp Ala Cys Asn Leu Ile Leu Gly Ala Pro Asp Ser Gln
                85                  90                  95

Lys Leu Thr Thr Val Asp Ile Val Thr Leu Arg Val Leu Cys Arg Glu
            100                 105                 110

Gly Val Arg Trp Arg Val Met Ala Ile Gln Asp Phe Lys Pro Phe Glu
        115                 120                 125

Asn Leu Arg Leu Met Ala Pro Ile Ser Leu Gln Val Val His Val Glu
    130                 135                 140

Thr His Arg Cys Asn Ile Ser Trp Glu Ile Ser Gln Ala Ser His Tyr
145                 150                 155                 160

Phe Glu Arg His Leu Glu Phe Glu Ala Arg Thr Leu Ser Pro Gly His
                165                 170                 175

Thr Trp Glu Glu Ala Pro Leu Leu Thr Leu Lys Gln Lys Gln Glu Trp
            180                 185                 190

Ile Cys Leu Glu Thr Leu Thr Pro Asp Thr Gln Tyr Glu Phe Gln Val
        195                 200                 205

Arg Val Lys Pro Leu Gln Gly Glu Phe Thr Thr Trp Ser Pro Trp Ser
    210                 215                 220

Gln Pro Leu Ala Phe Arg Thr Lys Pro Ala Ala Leu Gly Lys Asp Thr
225                 230                 235                 240

Ile Pro Trp Leu Gly His Leu Leu Val Gly Leu Ser Gly Ala Phe Gly
                245                 250                 255

Phe Ile Ile Leu Val Tyr Leu Leu Ile Asn Cys Arg Asn Thr Gly Pro
            260                 265                 270

Trp Leu Lys Lys Val Leu Lys Cys Asn Thr Pro Asp Pro Ser Lys Phe
        275                 280                 285

Phe Ser Gln Leu Ser Ser Glu His Gly Gly Asp Val Gln Lys Trp Leu
```

```
    290                 295                 300

Ser Ser Pro Phe Pro Ser Ser Ser Phe Ser Pro Gly Gly Leu Ala Pro
305                 310                 315                 320

Glu Ile Ser Pro Leu Glu Val Leu Glu Arg Asp Lys Val Thr Gln Leu
                325                 330                 335

Leu Leu Gln Gln Asp Lys Val Pro Glu Pro Ala Ser Leu Ser Ser Asn
            340                 345                 350

His Ser Leu Thr Ser Cys Phe Thr Asn Gln Gly Tyr Phe Phe Phe His
        355                 360                 365

Leu Pro Asp Ala Leu Glu Ile Glu Ala Cys Gln Val Tyr Phe Thr Tyr
    370                 375                 380

Asp Pro Tyr Ser Glu Glu Asp Pro Asp Glu Gly Val Ala Gly Ala Pro
385                 390                 395                 400

Thr Gly Ser Ser Pro Gln Pro Leu Gln Pro Leu Ser Gly Glu Asp Asp
                405                 410                 415

Ala Tyr Cys Thr Phe Pro Ser Arg Asp Asp Leu Leu Leu Phe Ser Pro
            420                 425                 430

Ser Leu Leu Gly Gly Pro Ser Pro Pro Ser Thr Ala Pro Gly Gly Ser
        435                 440                 445

Gly Ala Gly Glu Glu Arg Met Pro Pro Ser Leu Gln Glu Arg Val Pro
    450                 455                 460

Arg Asp Trp Asp Pro Gln Pro Leu Gly Pro Pro Thr Pro Gly Val Pro
465                 470                 475                 480

Asp Leu Val Asp Phe Gln Pro Pro Pro Glu Leu Val Leu Arg Glu Ala
                485                 490                 495

Gly Glu Glu Val Pro Asp Ala Gly Pro Arg Glu Gly Val Ser Phe Pro
            500                 505                 510
```

```
Trp Ser Arg Pro Pro Gly Gln Gly Glu Phe Arg Ala Leu Asn Ala Arg
        515                 520                 525


Leu Pro Leu Asn Thr Asp Ala Tyr Leu Ser Leu Gln Glu Leu Gln Gly
    530                 535                 540


Gln Asp Pro Thr His Leu Val
545                 550


<210> 65
<211> 369
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      IL2Rg sequence"

<400> 65
Met Leu Lys Pro Ser Leu Pro Phe Thr Ser Leu Leu Phe Leu Gln Leu
1               5                   10                  15


Pro Leu Leu Gly Val Gly Leu Asn Thr Thr Ile Leu Thr Pro Asn Gly
            20                  25                  30


Asn Glu Asp Thr Thr Ala Asp Phe Phe Leu Thr Thr Met Pro Thr Asp
        35                  40                  45


Ser Leu Ser Val Ser Thr Leu Pro Leu Pro Glu Val Gln Cys Phe Val
    50                  55                  60


Phe Asn Val Glu Tyr Met Asn Cys Thr Trp Asn Ser Ser Ser Glu Pro
65                  70                  75                  80


Gln Pro Thr Asn Leu Thr Leu His Tyr Trp Tyr Lys Asn Ser Asp Asn
                85                  90                  95


Asp Lys Val Gln Lys Cys Ser His Tyr Leu Phe Ser Glu Glu Ile Thr
            100                 105                 110


Ser Gly Cys Gln Leu Gln Lys Lys Glu Ile His Leu Tyr Gln Thr Phe
        115                 120                 125
```

```
Val Val Gln Leu Gln Asp Pro Arg Glu Pro Arg Arg Gln Ala Thr Gln
    130                 135                 140

Met Leu Lys Leu Gln Asn Leu Val Ile Pro Trp Ala Pro Glu Asn Leu
145                 150                 155                 160

Thr Leu His Lys Leu Ser Glu Ser Gln Leu Glu Leu Asn Trp Asn Asn
                165                 170                 175

Arg Phe Leu Asn His Cys Leu Glu His Leu Val Gln Tyr Arg Thr Asp
            180                 185                 190

Trp Asp His Ser Trp Thr Glu Gln Ser Val Asp Tyr Arg His Lys Phe
        195                 200                 205

Ser Leu Pro Ser Val Asp Gly Gln Lys Arg Tyr Thr Phe Arg Val Arg
    210                 215                 220

Ser Arg Phe Asn Pro Leu Cys Gly Ser Ala Gln His Trp Ser Glu Trp
225                 230                 235                 240

Ser His Pro Ile His Trp Gly Ser Asn Thr Ser Lys Glu Asn Pro Phe
                245                 250                 255

Leu Phe Ala Leu Glu Ala Val Val Ile Ser Val Gly Ser Met Gly Leu
            260                 265                 270

Ile Ile Ser Leu Leu Cys Val Tyr Phe Trp Leu Glu Arg Thr Met Pro
        275                 280                 285

Arg Ile Pro Thr Leu Lys Asn Leu Glu Asp Leu Val Thr Glu Tyr His
    290                 295                 300

Gly Asn Phe Ser Ala Trp Ser Gly Val Ser Lys Gly Leu Ala Glu Ser
305                 310                 315                 320

Leu Gln Pro Asp Tyr Ser Glu Arg Leu Cys Leu Val Ser Glu Ile Pro
                325                 330                 335
```

Pro Lys Gly Gly Ala Leu Gly Glu Gly Pro Gly Ala Ser Pro Cys Asn
340 345 350

Gln His Ser Pro Tyr Trp Ala Pro Pro Cys Tyr Thr Leu Lys Pro Glu
355 360 365

Thr

<210> 66
<211> 520
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 66
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

```
Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
```

```
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala His His His His His His
        515                 520
```

<210> 67
<211> 524
<212> PRT
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 67

```
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205
```

```
Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415
```

```
Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser His His His His His His
        515                 520


<210> 68
<211> 940
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 68
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60
```

```
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                245                 250                 255

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            260                 265                 270

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ile Trp
```

```
        275                 280                 285

Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr Pro Asp
    290                 295                 300

Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu Glu Asp
305                 310                 315                 320

Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly Ser Gly
                325                 330                 335

Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr
            340                 345                 350

Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu Leu Leu
        355                 360                 365

His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln
    370                 375                 380

Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr
385                 390                 395                 400

Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu
                405                 410                 415

Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln Gly Val
            420                 425                 430

Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly Asp Asn
        435                 440                 445

Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala Cys Pro
    450                 455                 460

Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala Val His
465                 470                 475                 480

Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile
                485                 490                 495
```

```
Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu Lys Asn
            500                 505                 510

Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr
        515                 520                 525

Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln Gly Lys
    530                 535                 540

Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr Ser Ala
545                 550                 555                 560

Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala Gln Asp
                565                 570                 575

Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro Cys Ser
            580                 585                 590

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg
        595                 600                 605

Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg Asn
    610                 615                 620

Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys Leu
625                 630                 635                 640

Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile Thr
                645                 650                 655

Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu His
            660                 665                 670

Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr Arg
        675                 680                 685

Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu Cys
    690                 695                 700

Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe Gln
```

```
705                 710                 715                 720

Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile Leu
                725                 730                 735

Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu Asn
            740                 745                 750

His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala Asp
        755                 760                 765

Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe Ser
    770                 775                 780

Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser Ala
785                 790                 795                 800

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
        835                 840                 845

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
    850                 855                 860

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
            900                 905                 910

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
        915                 920                 925
```

```
Ser Ser His His His His His His Glu Pro Glu Ala
    930                 935                 940


<210> 69
<211> 1069
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 69
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140


Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160
```

```
His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                245                 250                 255

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            260                 265                 270

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ile Trp
        275                 280                 285

Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr Pro Asp
    290                 295                 300

Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu Glu Asp
305                 310                 315                 320

Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly Ser Gly
                325                 330                 335

Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr
            340                 345                 350

Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu Leu Leu
        355                 360                 365
```

```
His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln
    370                 375                 380

Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr
385                 390                 395                 400

Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu
                405                 410                 415

Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln Gly Val
            420                 425                 430

Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly Asp Asn
        435                 440                 445

Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala Cys Pro
    450                 455                 460

Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala Val His
465                 470                 475                 480

Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile
                485                 490                 495

Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu Lys Asn
            500                 505                 510

Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr
        515                 520                 525

Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln Gly Lys
    530                 535                 540

Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr Ser Ala
545                 550                 555                 560

Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala Gln Asp
                565                 570                 575

Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro Cys Ser
            580                 585                 590
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg
        595                 600                 605

Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg Asn
    610                 615                 620

Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys Leu
625                 630                 635                 640

Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile Thr
                645                 650                 655

Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu His
            660                 665                 670

Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr Arg
        675                 680                 685

Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu Cys
    690                 695                 700

Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe Gln
705                 710                 715                 720

Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile Leu
                725                 730                 735

Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu Asn
            740                 745                 750

His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala Asp
        755                 760                 765

Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe Ser
    770                 775                 780

Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser Ala
785                 790                 795                 800
```

```
Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
        835                 840                 845

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
    850                 855                 860

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
            900                 905                 910

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
        915                 920                 925

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    930                 935                 940

Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala Gln Ala Gly
945                 950                 955                 960

Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asn
                965                 970                 975

Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln Arg Glu Phe
            980                 985                 990

Val Ala Ile Ile Asn Ser Val Gly  Ser Thr Asn Tyr Ala  Asp Ser Val
        995                 1000                1005

Lys Gly  Arg Phe Thr Ile Ser  Arg Asp Asn Ala Lys  Asn Thr Val
    1010                1015                1020
```

Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr
    1025   1030   1035

Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr
    1040   1045   1050

Gln Val Thr Val Ser Ser His His His His His His Glu Pro Glu
    1055   1060   1065

Ala

<210> 70
<211> 1069
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 70
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala Gln Ala Gly Gly
1   5   10   15

Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asn Ser
            20   25   30

Val Met Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln Arg Glu Phe Val
        35   40   45

Ala Ile Ile Asn Ser Val Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50   55   60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65   70   75   80

Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Val Cys Asn
                85   90   95

Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr Gln Val Thr Val

```
            100                 105                 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        115                 120                 125

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    130                 135                 140

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
145                 150                 155                 160

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                165                 170                 175

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            180                 185                 190

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        195                 200                 205

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    210                 215                 220

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
225                 230                 235                 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                245                 250                 255

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            260                 265                 270

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        275                 280                 285

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    290                 295                 300

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
305                 310                 315                 320
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                325                 330                 335

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            340                 345                 350

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        355                 360                 365

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ile
                405                 410                 415

Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr Pro
            420                 425                 430

Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu Glu
        435                 440                 445

Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly Ser
    450                 455                 460

Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly Gln
465                 470                 475                 480

Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu Leu
                485                 490                 495

Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys Asp
            500                 505                 510

Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys Asn
        515                 520                 525

Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr Asp
```

```
    530                 535                 540

Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln Gly
545                 550                 555                 560

Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly Asp
                565                 570                 575

Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala Cys
            580                 585                 590

Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala Val
        595                 600                 605

His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg Asp
    610                 615                 620

Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu Lys
625                 630                 635                 640

Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp Ser
                645                 650                 655

Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln Gly
            660                 665                 670

Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr Ser
        675                 680                 685

Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala Gln
    690                 695                 700

Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro Cys
705                 710                 715                 720

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                725                 730                 735

Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
            740                 745                 750
```

```
Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
        755                 760                 765

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
    770                 775                 780

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
785                 790                 795                 800

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
                805                 810                 815

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
            820                 825                 830

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
        835                 840                 845

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
    850                 855                 860

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
865                 870                 875                 880

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
                885                 890                 895

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
            900                 905                 910

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
        915                 920                 925

Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
    930                 935                 940

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
945                 950                 955                 960

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
```

965 970 975

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
980 985 990

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
995 1000 1005

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
1010 1015 1020

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
1025 1030 1035

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr
1040 1045 1050

Leu Val Thr Val Ser Ser His His His His His His Glu Pro Glu
1055 1060 1065

Ala

<210> 71
<211> 940
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 71
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
        115                 120                 125

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
    130                 135                 140

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
145                 150                 155                 160

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
                165                 170                 175

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
            180                 185                 190

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
        195                 200                 205

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
    210                 215                 220

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
225                 230                 235                 240

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                245                 250                 255

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
            260                 265                 270
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
        275                 280                 285

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
    290                 295                 300

Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
305                 310                 315                 320

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
                325                 330                 335

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            340                 345                 350

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
        355                 360                 365

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
    370                 375                 380

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
385                 390                 395                 400

Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
                405                 410                 415

Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
            420                 425                 430

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
        435                 440                 445

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
    450                 455                 460

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
465                 470                 475                 480
```

```
Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
                485                 490                 495

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
            500                 505                 510

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
        515                 520                 525

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
    530                 535                 540

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
545                 550                 555                 560

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
                565                 570                 575

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
            580                 585                 590

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
        595                 600                 605

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
    610                 615                 620

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
625                 630                 635                 640

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
                645                 650                 655

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
            660                 665                 670

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
        675                 680                 685

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
    690                 695                 700
```

```
Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
705                 710                 715                 720

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                725                 730                 735

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
            740                 745                 750

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
        755                 760                 765

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
    770                 775                 780

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
785                 790                 795                 800

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
                805                 810                 815

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
            820                 825                 830

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
        835                 840                 845

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
    850                 855                 860

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
865                 870                 875                 880

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
                885                 890                 895

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
            900                 905                 910
```

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
915 920 925

Ser Ala His His His His His His Glu Pro Glu Ala
930 935 940

<210> 72
<211> 940
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 72
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
```

```
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575
```

```
Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
```

785 790 795 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
805 810 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
820 825 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
835 840 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
850 855 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865 870 875 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
885 890 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser His His His His His His Glu Pro Glu Ala
930 935 940

<210> 73
<211> 940
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 73
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

```
Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240
```

```
Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445
```

```
Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
        835                 840                 845

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
    850                 855                 860

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
865                 870                 875                 880
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
            900                 905                 910


Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
        915                 920                 925


Ser Ser His His His His His His Glu Pro Glu Ala
    930                 935                 940


<210> 74
<211> 328
<212> PRT
<213> Homo sapiens

<400> 74
Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1               5                   10                  15


Ala Ser Pro Leu Val Ala Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
            20                  25                  30


Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
        35                  40                  45


Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
    50                  55                  60


Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65                  70                  75                  80


Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
                85                  90                  95


Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
            100                 105                 110


Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
        115                 120                 125
```

```
Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
    130                 135                 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145                 150                 155                 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
                165                 170                 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
            180                 185                 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
        195                 200                 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
    210                 215                 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225                 230                 235                 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
                245                 250                 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
            260                 265                 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
        275                 280                 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
    290                 295                 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305                 310                 315                 320

Glu Trp Ala Ser Val Pro Cys Ser
                325
```

<210> 75
<211> 215

<212> PRT
<213> Mus musculus

<400> 75
Met Cys Gln Ser Arg Tyr Leu Leu Phe Leu Ala Thr Leu Ala Leu Leu
1 5 10 15

Asn His Leu Ser Leu Ala Arg Val Ile Pro Val Ser Gly Pro Ala Arg
20 25 30

Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val
35 40 45

Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp
50 55 60

Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr
65 70 75 80

Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg
85 90 95

Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr
100 105 110

Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys
115 120 125

Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His
130 135 140

Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp
145 150 155 160

Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys
165 170 175

Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys
180 185 190

Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val
195 200 205

```
Met Gly Tyr Leu Ser Ser Ala
    210                 215


<210> 76
<211> 862
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      IL12Rb-2 sequence"

<400> 76
Met Ala His Thr Phe Arg Gly Cys Ser Leu Ala Phe Met Phe Ile Ile
1               5                   10                  15


Thr Trp Leu Leu Ile Lys Ala Lys Ile Asp Ala Cys Lys Arg Gly Asp
            20                  25                  30


Val Thr Val Lys Pro Ser His Val Ile Leu Leu Gly Ser Thr Val Asn
        35                  40                  45


Ile Thr Cys Ser Leu Lys Pro Arg Gln Gly Cys Phe His Tyr Ser Arg
    50                  55                  60


Arg Asn Lys Leu Ile Leu Tyr Lys Phe Asp Arg Arg Ile Asn Phe His
65                  70                  75                  80


His Gly His Ser Leu Asn Ser Gln Val Thr Gly Leu Pro Leu Gly Thr
                85                  90                  95


Thr Leu Phe Val Cys Lys Leu Ala Cys Ile Asn Ser Asp Glu Ile Gln
            100                 105                 110


Ile Cys Gly Ala Glu Ile Phe Val Gly Val Ala Pro Glu Gln Pro Gln
        115                 120                 125


Asn Leu Ser Cys Ile Gln Lys Gly Glu Gln Gly Thr Val Ala Cys Thr
    130                 135                 140


Trp Glu Arg Gly Arg Asp Thr His Leu Tyr Thr Glu Tyr Thr Leu Gln
```

```
145                 150                 155                 160

Leu Ser Gly Pro Lys Asn Leu Thr Trp Gln Lys Gln Cys Lys Asp Ile
                165                 170                 175

Tyr Cys Asp Tyr Leu Asp Phe Gly Ile Asn Leu Thr Pro Glu Ser Pro
            180                 185                 190

Glu Ser Asn Phe Thr Ala Lys Val Thr Ala Val Asn Ser Leu Gly Ser
        195                 200                 205

Ser Ser Ser Leu Pro Ser Thr Phe Thr Phe Leu Asp Ile Val Arg Pro
    210                 215                 220

Leu Pro Pro Trp Asp Ile Arg Ile Lys Phe Gln Lys Ala Ser Val Ser
225                 230                 235                 240

Arg Cys Thr Leu Tyr Trp Arg Asp Glu Gly Leu Val Leu Leu Asn Arg
                245                 250                 255

Leu Arg Tyr Arg Pro Ser Asn Ser Arg Leu Trp Asn Met Val Asn Val
            260                 265                 270

Thr Lys Ala Lys Gly Arg His Asp Leu Leu Asp Leu Lys Pro Phe Thr
        275                 280                 285

Glu Tyr Glu Phe Gln Ile Ser Ser Lys Leu His Leu Tyr Lys Gly Ser
    290                 295                 300

Trp Ser Asp Trp Ser Glu Ser Leu Arg Ala Gln Thr Pro Glu Glu Glu
305                 310                 315                 320

Pro Thr Gly Met Leu Asp Val Trp Tyr Met Lys Arg His Ile Asp Tyr
                325                 330                 335

Ser Arg Gln Gln Ile Ser Leu Phe Trp Lys Asn Leu Ser Val Ser Glu
            340                 345                 350

Ala Arg Gly Lys Ile Leu His Tyr Gln Val Thr Leu Gln Glu Leu Thr
        355                 360                 365
```

```
Gly Gly Lys Ala Met Thr Gln Asn Ile Thr Gly His Thr Ser Trp Thr
    370                 375                 380

Thr Val Ile Pro Arg Thr Gly Asn Trp Ala Val Ala Val Ser Ala Ala
385                 390                 395                 400

Asn Ser Lys Gly Ser Ser Leu Pro Thr Arg Ile Asn Ile Met Asn Leu
                405                 410                 415

Cys Glu Ala Gly Leu Leu Ala Pro Arg Gln Val Ser Ala Asn Ser Glu
            420                 425                 430

Gly Met Asp Asn Ile Leu Val Thr Trp Gln Pro Pro Arg Lys Asp Pro
        435                 440                 445

Ser Ala Val Gln Glu Tyr Val Val Glu Trp Arg Glu Leu His Pro Gly
    450                 455                 460

Gly Asp Thr Gln Val Pro Leu Asn Trp Leu Arg Ser Arg Pro Tyr Asn
465                 470                 475                 480

Val Ser Ala Leu Ile Ser Glu Asn Ile Lys Ser Tyr Ile Cys Tyr Glu
                485                 490                 495

Ile Arg Val Tyr Ala Leu Ser Gly Asp Gln Gly Gly Cys Ser Ser Ile
            500                 505                 510

Leu Gly Asn Ser Lys His Lys Ala Pro Leu Ser Gly Pro His Ile Asn
        515                 520                 525

Ala Ile Thr Glu Glu Lys Gly Ser Ile Leu Ile Ser Trp Asn Ser Ile
    530                 535                 540

Pro Val Gln Glu Gln Met Gly Cys Leu Leu His Tyr Arg Ile Tyr Trp
545                 550                 555                 560

Lys Glu Arg Asp Ser Asn Ser Gln Pro Gln Leu Cys Glu Ile Pro Tyr
                565                 570                 575

Arg Val Ser Gln Asn Ser His Pro Ile Asn Ser Leu Gln Pro Arg Val
```

```
            580                 585                 590

Thr Tyr Val Leu Trp Met Thr Ala Leu Thr Ala Ala Gly Glu Ser Ser
        595                 600                 605

His Gly Asn Glu Arg Glu Phe Cys Leu Gln Gly Lys Ala Asn Trp Met
    610                 615                 620

Ala Phe Val Ala Pro Ser Ile Cys Ile Ala Ile Ile Met Val Gly Ile
625                 630                 635                 640

Phe Ser Thr His Tyr Phe Gln Gln Lys Val Phe Val Leu Leu Ala Ala
                645                 650                 655

Leu Arg Pro Gln Trp Cys Ser Arg Glu Ile Pro Asp Pro Ala Asn Ser
            660                 665                 670

Thr Cys Ala Lys Lys Tyr Pro Ile Ala Glu Glu Lys Thr Gln Leu Pro
        675                 680                 685

Leu Asp Arg Leu Leu Ile Asp Trp Pro Thr Pro Glu Asp Pro Glu Pro
    690                 695                 700

Leu Val Ile Ser Glu Val Leu His Gln Val Thr Pro Val Phe Arg His
705                 710                 715                 720

Pro Pro Cys Ser Asn Trp Pro Gln Arg Glu Lys Gly Ile Gln Gly His
                725                 730                 735

Gln Ala Ser Glu Lys Asp Met Met His Ser Ala Ser Ser Pro Pro Pro
            740                 745                 750

Pro Arg Ala Leu Gln Ala Glu Ser Arg Gln Leu Val Asp Leu Tyr Lys
        755                 760                 765

Val Leu Glu Ser Arg Gly Ser Asp Pro Lys Pro Glu Asn Pro Ala Cys
    770                 775                 780

Pro Trp Thr Val Leu Pro Ala Gly Asp Leu Pro Thr His Asp Gly Tyr
785                 790                 795                 800
```

```
Leu Pro Ser Asn Ile Asp Asp Leu Pro Ser His Glu Ala Pro Leu Ala
                805                 810                 815


Asp Ser Leu Glu Glu Leu Glu Pro Gln His Ile Ser Leu Ser Val Phe
            820                 825                 830


Pro Ser Ser Ser Leu His Pro Leu Thr Phe Ser Cys Gly Asp Lys Leu
        835                 840                 845


Thr Leu Asp Gln Leu Lys Met Arg Cys Asp Ser Leu Met Leu
    850                 855                 860


<210> 77
<211> 662
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      IL12Rb-1 sequence"

<400> 77
Met Glu Pro Leu Val Thr Trp Val Val Pro Leu Leu Phe Leu Phe Leu
1               5                   10                  15


Leu Ser Arg Gln Gly Ala Ala Cys Arg Thr Ser Glu Cys Cys Phe Gln
            20                  25                  30


Asp Pro Pro Tyr Pro Asp Ala Asp Ser Gly Ser Ala Ser Gly Pro Arg
        35                  40                  45


Asp Leu Arg Cys Tyr Arg Ile Ser Ser Asp Arg Tyr Glu Cys Ser Trp
    50                  55                  60


Gln Tyr Glu Gly Pro Thr Ala Gly Val Ser His Phe Leu Arg Cys Cys
65                  70                  75                  80


Leu Ser Ser Gly Arg Cys Cys Tyr Phe Ala Ala Gly Ser Ala Thr Arg
                85                  90                  95


Leu Gln Phe Ser Asp Gln Ala Gly Val Ser Val Leu Tyr Thr Val Thr
            100                 105                 110
```

```
Leu Trp Val Glu Ser Trp Ala Arg Asn Gln Thr Glu Lys Ser Pro Glu
        115                 120                 125

Val Thr Leu Gln Leu Tyr Asn Ser Val Lys Tyr Glu Pro Pro Leu Gly
    130                 135                 140

Asp Ile Lys Val Ser Lys Leu Ala Gly Gln Leu Arg Met Glu Trp Glu
145                 150                 155                 160

Thr Pro Asp Asn Gln Val Gly Ala Glu Val Gln Phe Arg His Arg Thr
                165                 170                 175

Pro Ser Ser Pro Trp Lys Leu Gly Asp Cys Gly Pro Gln Asp Asp Asp
            180                 185                 190

Thr Glu Ser Cys Leu Cys Pro Leu Glu Met Asn Val Ala Gln Glu Phe
        195                 200                 205

Gln Leu Arg Arg Arg Gln Leu Gly Ser Gln Gly Ser Ser Trp Ser Lys
    210                 215                 220

Trp Ser Ser Pro Val Cys Val Pro Pro Glu Asn Pro Pro Gln Pro Gln
225                 230                 235                 240

Val Arg Phe Ser Val Glu Gln Leu Gly Gln Asp Gly Arg Arg Arg Leu
                245                 250                 255

Thr Leu Lys Glu Gln Pro Thr Gln Leu Glu Leu Pro Glu Gly Cys Gln
            260                 265                 270

Gly Leu Ala Pro Gly Thr Glu Val Thr Tyr Arg Leu Gln Leu His Met
        275                 280                 285

Leu Ser Cys Pro Cys Lys Ala Lys Ala Thr Arg Thr Leu His Leu Gly
    290                 295                 300

Lys Met Pro Tyr Leu Ser Gly Ala Ala Tyr Asn Val Ala Val Ile Ser
305                 310                 315                 320
```

```
Ser Asn Gln Phe Gly Pro Gly Leu Asn Gln Thr Trp His Ile Pro Ala
                325                 330                 335

Asp Thr His Thr Glu Pro Val Ala Leu Asn Ile Ser Val Gly Thr Asn
            340                 345                 350

Gly Thr Thr Met Tyr Trp Pro Ala Arg Ala Gln Ser Met Thr Tyr Cys
        355                 360                 365

Ile Glu Trp Gln Pro Val Gly Gln Asp Gly Gly Leu Ala Thr Cys Ser
    370                 375                 380

Leu Thr Ala Pro Gln Asp Pro Asp Pro Ala Gly Met Ala Thr Tyr Ser
385                 390                 395                 400

Trp Ser Arg Glu Ser Gly Ala Met Gly Gln Glu Lys Cys Tyr Tyr Ile
                405                 410                 415

Thr Ile Phe Ala Ser Ala His Pro Glu Lys Leu Thr Leu Trp Ser Thr
            420                 425                 430

Val Leu Ser Thr Tyr His Phe Gly Gly Asn Ala Ser Ala Ala Gly Thr
        435                 440                 445

Pro His His Val Ser Val Lys Asn His Ser Leu Asp Ser Val Ser Val
    450                 455                 460

Asp Trp Ala Pro Ser Leu Leu Ser Thr Cys Pro Gly Val Leu Lys Glu
465                 470                 475                 480

Tyr Val Val Arg Cys Arg Asp Glu Asp Ser Lys Gln Val Ser Glu His
                485                 490                 495

Pro Val Gln Pro Thr Glu Thr Gln Val Thr Leu Ser Gly Leu Arg Ala
            500                 505                 510

Gly Val Ala Tyr Thr Val Gln Val Arg Ala Asp Thr Ala Trp Leu Arg
        515                 520                 525

Gly Val Trp Ser Gln Pro Gln Arg Phe Ser Ile Glu Val Gln Val Ser
    530                 535                 540
```

```
Asp Trp Leu Ile Phe Phe Ala Ser Leu Gly Ser Phe Leu Ser Ile Leu
545                 550                 555                 560


Leu Val Gly Val Leu Gly Tyr Leu Gly Leu Asn Arg Ala Ala Arg His
                565                 570                 575


Leu Cys Pro Pro Leu Pro Thr Pro Cys Ala Ser Ser Ala Ile Glu Phe
            580                 585                 590


Pro Gly Gly Lys Glu Thr Trp Gln Trp Ile Asn Pro Val Asp Phe Gln
        595                 600                 605


Glu Glu Ala Ser Leu Gln Glu Ala Leu Val Val Glu Met Ser Trp Asp
    610                 615                 620


Lys Gly Glu Arg Thr Glu Pro Leu Glu Lys Thr Glu Leu Pro Glu Gly
625                 630                 635                 640


Ala Pro Glu Leu Ala Leu Asp Thr Glu Leu Ser Leu Glu Asp Gly Asp
                645                 650                 655


Arg Cys Lys Ala Lys Met
            660


<210> 78
<211> 328
<212> PRT
<213> Homo sapiens

<400> 78
Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1               5                   10                  15


Ala Ser Pro Leu Val Ala Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
            20                  25                  30


Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
        35                  40                  45


Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
    50                  55                  60
```

```
Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65                  70                  75                  80

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
                85                  90                  95

Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
            100                 105                 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
        115                 120                 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
    130                 135                 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145                 150                 155                 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
                165                 170                 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
            180                 185                 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
        195                 200                 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
    210                 215                 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225                 230                 235                 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
                245                 250                 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
            260                 265                 270
```

```
Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
        275                 280                 285


Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
    290                 295                 300


Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305                 310                 315                 320


Glu Trp Ala Ser Val Pro Cys Ser
                325


<210> 79
<211> 335
<212> PRT
<213> Mus musculus

<400> 79
Met Cys Pro Gln Lys Leu Thr Ile Ser Trp Phe Ala Ile Val Leu Leu
1               5                   10                  15


Val Ser Pro Leu Met Ala Met Trp Glu Leu Glu Lys Asp Val Tyr Val
            20                  25                  30


Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr Val Asn Leu
        35                  40                  45


Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln
    50                  55                  60


Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr Val Lys
65                  70                  75                  80


Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Thr
                85                  90                  95


Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly Ile Trp
            100                 105                 110


Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys
        115                 120                 125
```

```
Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu Val Gln
    130                 135                 140

Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro
145                 150                 155                 160

Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala Glu Lys
                165                 170                 175

Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln
            180                 185                 190

Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu
        195                 200                 205

Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser Thr Ser
    210                 215                 220

Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln
225                 230                 235                 240

Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu Tyr Pro
                245                 250                 255

Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe Phe Val
            260                 265                 270

Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu Gly Cys
        275                 280                 285

Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu Val Gln
    290                 295                 300

Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn
305                 310                 315                 320

Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg Ser
                325                 330                 335

<210> 80
<211> 399
```

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 80
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
115 120 125

Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr
130 135 140

Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp
145 150 155 160

Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser
165 170 175

Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn

```
            180                 185                 190

Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr
        195                 200                 205

Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile
    210                 215                 220

Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn
225                 230                 235                 240

Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg
                245                 250                 255

Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met
            260                 265                 270

Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
        275                 280                 285

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
    290                 295                 300

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
305                 310                 315                 320

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
                325                 330                 335

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
            340                 345                 350

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
        355                 360                 365

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Ser Ser His His His His His His
385                 390                 395
```

<210> 81
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 81
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
115 120 125

Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr
130 135 140

Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp
145 150 155 160

Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser
165 170 175

```
Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn
            180                 185                 190

Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr
        195                 200                 205

Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile
    210                 215                 220

Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn
225                 230                 235                 240

Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg
                245                 250                 255

Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met
            260                 265                 270

Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser
        275                 280                 285

Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser
    290                 295                 300

Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys
305                 310                 315                 320

Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val
                325                 330                 335

Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser
            340                 345                 350

His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala
        355                 360                 365

Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg
    370                 375                 380
```

```
Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu
385                 390                 395                 400

Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly
                405                 410                 415

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
            420                 425                 430

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
        435                 440                 445

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
    450                 455                 460

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
465                 470                 475                 480

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
                485                 490                 495

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
            500                 505                 510

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
        515                 520                 525

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His
    530                 535                 540

His His His
545
```

<210> 82
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 82
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20   25   30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115   120   125

Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr
    130   135   140

Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp
145   150   155   160

Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser
                165   170   175

Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn
            180   185   190

Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr
        195   200   205

Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile

```
    210                 215                 220

Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn
225                 230                 235                 240

Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg
                245                 250                 255

Lys Arg Lys Arg Ser Arg Cys Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser
        275                 280                 285

Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser
    290                 295                 300

Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys
305                 310                 315                 320

Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val
                325                 330                 335

Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser
            340                 345                 350

His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala
        355                 360                 365

Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg
    370                 375                 380

Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu
385                 390                 395                 400

Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly
                405                 410                 415

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
            420                 425                 430
```

```
Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
        435                 440                 445

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
    450                 455                 460

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
465                 470                 475                 480

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
                485                 490                 495

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
            500                 505                 510

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
        515                 520                 525

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His
    530                 535                 540

His His His
545
```

<210> 83
<211> 166
<212> PRT
<213> Homo sapiens

<400> 83

```
Met Lys Tyr Thr Ser Tyr Ile Leu Ala Phe Gln Leu Cys Ile Val Leu
1               5                   10                  15

Gly Ser Leu Gly Cys Tyr Cys Gln Asp Pro Tyr Val Lys Glu Ala Glu
            20                  25                  30

Asn Leu Lys Lys Tyr Phe Asn Ala Gly His Ser Asp Val Ala Asp Asn
        35                  40                  45

Gly Thr Leu Phe Leu Gly Ile Leu Lys Asn Trp Lys Glu Glu Ser Asp
    50                  55                  60
```

```
Arg Lys Ile Met Gln Ser Gln Ile Val Ser Phe Tyr Phe Lys Leu Phe
65                  70                  75                  80

Lys Asn Phe Lys Asp Asp Gln Ser Ile Gln Lys Ser Val Glu Thr Ile
                85                  90                  95

Lys Glu Asp Met Asn Val Lys Phe Phe Asn Ser Asn Lys Lys Lys Arg
            100                 105                 110

Asp Asp Phe Glu Lys Leu Thr Asn Tyr Ser Val Thr Asp Leu Asn Val
        115                 120                 125

Gln Arg Lys Ala Ile His Glu Leu Ile Gln Val Met Ala Glu Leu Ser
    130                 135                 140

Pro Ala Ala Lys Thr Gly Lys Arg Lys Arg Ser Gln Met Leu Phe Arg
145                 150                 155                 160

Gly Arg Arg Ala Ser Gln
                165
```

<210> 84
<211> 155
<212> PRT
<213> Mus musculus

<400> 84

```
Met Asn Ala Thr His Cys Ile Leu Ala Leu Gln Leu Phe Leu Met Ala
1               5                   10                  15

Val Ser Gly Cys Tyr Cys His Gly Thr Val Ile Glu Ser Leu Glu Ser
            20                  25                  30

Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser
        35                  40                  45

Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys
    50                  55                  60

Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val
65                  70                  75                  80
```

```
Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser
                85                  90                  95

His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala
            100                 105                 110

Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg
        115                 120                 125

Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu
    130                 135                 140

Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys
145                 150                 155
```

<210> 85
<211> 699
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 85

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95
```

```
Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145                 150                 155                 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
                165                 170                 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
            180                 185                 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
        195                 200                 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
    290                 295                 300
```

```
Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
305                 310                 315                 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                325                 330                 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            340                 345                 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        355                 360                 365

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    370                 375                 380

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385                 390                 395                 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
                405                 410                 415

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly
            420                 425                 430

Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser
        435                 440                 445

Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn
    450                 455                 460

Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser
465                 470                 475                 480

Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser
                485                 490                 495

Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser
            500                 505                 510

Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu
        515                 520                 525
```

```
Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg
    530                 535                 540

Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg
545                 550                 555                 560

Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
                565                 570                 575

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            580                 585                 590

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        595                 600                 605

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    610                 615                 620

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
625                 630                 635                 640

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
                645                 650                 655

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
            660                 665                 670

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
        675                 680                 685

Val Thr Val Ser Ser His His His His His His
    690                 695
```

<210> 86
<211> 436
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 86

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala
    130                 135                 140

Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln
                165                 170                 175

Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln
            180                 185                 190

Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205
```

```
Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro
225                 230                 235                 240

Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His His His His
```

420 425 430

Glu Pro Glu Ala
435

<210> 87
<211> 428
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 87
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
115 120 125

Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala
130 135 140

```
Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln
                165                 170                 175

Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln
            180                 185                 190

Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro
225                 230                 235                 240

Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
    290                 295                 300

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
305                 310                 315                 320

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
                325                 330                 335

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
            340                 345                 350

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
        355                 360                 365
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
    370                 375                 380

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
385                 390                 395                 400

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
                405                 410                 415

Ser Ser His His His His His His Glu Pro Glu Ala
            420                 425

<210> 88
<211> 489
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      IFNgR1 sequence"

<400> 88
Met Ala Leu Leu Phe Leu Leu Pro Leu Val Met Gln Gly Val Ser Arg
1               5                   10                  15

Ala Glu Met Gly Thr Ala Asp Leu Gly Pro Ser Ser Val Pro Thr Pro
            20                  25                  30

Thr Asn Val Thr Ile Glu Ser Tyr Asn Met Asn Pro Ile Val Tyr Trp
        35                  40                  45

Glu Tyr Gln Ile Met Pro Gln Val Pro Val Phe Thr Val Glu Val Lys
    50                  55                  60

Asn Tyr Gly Val Lys Asn Ser Glu Trp Ile Asp Ala Cys Ile Asn Ile
65                  70                  75                  80

Ser His His Tyr Cys Asn Ile Ser Asp His Val Gly Asp Pro Ser Asn
                85                  90                  95

Ser Leu Trp Val Arg Val Lys Ala Arg Val Gly Gln Lys Glu Ser Ala
```

```
            100                 105                 110

Tyr Ala Lys Ser Glu Glu Phe Ala Val Cys Arg Asp Gly Lys Ile Gly
        115                 120                 125

Pro Pro Lys Leu Asp Ile Arg Lys Glu Glu Lys Gln Ile Met Ile Asp
    130                 135                 140

Ile Phe His Pro Ser Val Phe Val Asn Gly Asp Glu Gln Glu Val Asp
145                 150                 155                 160

Tyr Asp Pro Glu Thr Thr Cys Tyr Ile Arg Val Tyr Asn Val Tyr Val
                165                 170                 175

Arg Met Asn Gly Ser Glu Ile Gln Tyr Lys Ile Leu Thr Gln Lys Glu
            180                 185                 190

Asp Asp Cys Asp Glu Ile Gln Cys Gln Leu Ala Ile Pro Val Ser Ser
        195                 200                 205

Leu Asn Ser Gln Tyr Cys Val Ser Ala Glu Gly Val Leu His Val Trp
    210                 215                 220

Gly Val Thr Thr Glu Lys Ser Lys Glu Val Cys Ile Thr Ile Phe Asn
225                 230                 235                 240

Ser Ser Ile Lys Gly Ser Leu Trp Ile Pro Val Val Ala Ala Leu Leu
                245                 250                 255

Leu Phe Leu Val Leu Ser Leu Val Phe Ile Cys Phe Tyr Ile Lys Lys
            260                 265                 270

Ile Asn Pro Leu Lys Glu Lys Ser Ile Ile Leu Pro Lys Ser Leu Ile
        275                 280                 285

Ser Val Val Arg Ser Ala Thr Leu Glu Thr Lys Pro Glu Ser Lys Tyr
    290                 295                 300

Val Ser Leu Ile Thr Ser Tyr Gln Pro Phe Ser Leu Glu Lys Glu Val
305                 310                 315                 320
```

```
Val Cys Glu Glu Pro Leu Ser Pro Ala Thr Val Pro Gly Met His Thr
                325                 330                 335

Glu Asp Asn Pro Gly Lys Val Glu His Thr Glu Glu Leu Ser Ser Ile
            340                 345                 350

Thr Glu Val Val Thr Thr Glu Glu Asn Ile Pro Asp Val Val Pro Gly
        355                 360                 365

Ser His Leu Thr Pro Ile Glu Arg Glu Ser Ser Ser Pro Leu Ser Ser
    370                 375                 380

Asn Gln Ser Glu Pro Gly Ser Ile Ala Leu Asn Ser Tyr His Ser Arg
385                 390                 395                 400

Asn Cys Ser Glu Ser Asp His Ser Arg Asn Gly Phe Asp Thr Asp Ser
                405                 410                 415

Ser Cys Leu Glu Ser His Ser Ser Leu Ser Asp Ser Glu Phe Pro Pro
            420                 425                 430

Asn Asn Lys Gly Glu Ile Lys Thr Glu Gly Gln Glu Leu Ile Thr Val
        435                 440                 445

Ile Lys Ala Pro Thr Ser Phe Gly Tyr Asp Lys Pro His Val Leu Val
    450                 455                 460

Asp Leu Leu Val Asp Asp Ser Gly Lys Glu Ser Leu Ile Gly Tyr Arg
465                 470                 475                 480

Pro Thr Glu Asp Ser Lys Glu Phe Ser
                485
```

<210> 89
<211> 337
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
IFNgR2 sequence"

<400> 89
Met Arg Pro Thr Leu Leu Trp Ser Leu Leu Leu Leu Leu Gly Val Phe
1   5   10   15

Ala Ala Ala Ala Ala Ala Pro Pro Asp Pro Leu Ser Gln Leu Pro Ala
            20   25   30

Pro Gln His Pro Lys Ile Arg Leu Tyr Asn Ala Glu Gln Val Leu Ser
        35   40   45

Trp Glu Pro Val Ala Leu Ser Asn Ser Thr Arg Pro Val Val Tyr Gln
    50   55   60

Val Gln Phe Lys Tyr Thr Asp Ser Lys Trp Phe Thr Ala Asp Ile Met
65   70   75   80

Ser Ile Gly Val Asn Cys Thr Gln Ile Thr Ala Thr Glu Cys Asp Phe
                85   90   95

Thr Ala Ala Ser Pro Ser Ala Gly Phe Pro Met Asp Phe Asn Val Thr
            100   105   110

Leu Arg Leu Arg Ala Glu Leu Gly Ala Leu His Ser Ala Trp Val Thr
        115   120   125

Met Pro Trp Phe Gln His Tyr Arg Asn Val Thr Val Gly Pro Pro Glu
    130   135   140

Asn Ile Glu Val Thr Pro Gly Glu Gly Ser Leu Ile Ile Arg Phe Ser
145   150   155   160

Ser Pro Phe Asp Ile Ala Asp Thr Ser Thr Ala Phe Phe Cys Tyr Tyr
                165   170   175

Val His Tyr Trp Glu Lys Gly Gly Ile Gln Gln Val Lys Gly Pro Phe
            180   185   190

Arg Ser Asn Ser Ile Ser Leu Asp Asn Leu Lys Pro Ser Arg Val Tyr
        195   200   205

```
Cys Leu Gln Val Gln Ala Gln Leu Leu Trp Asn Lys Ser Asn Ile Phe
    210                 215                 220

Arg Val Gly His Leu Ser Asn Ile Ser Cys Tyr Glu Thr Met Ala Asp
225                 230                 235                 240

Ala Ser Thr Glu Leu Gln Gln Val Ile Leu Ile Ser Val Gly Thr Phe
                245                 250                 255

Ser Leu Leu Ser Val Leu Ala Gly Ala Cys Phe Phe Leu Val Leu Lys
            260                 265                 270

Tyr Arg Gly Leu Ile Lys Tyr Trp Phe His Thr Pro Pro Ser Ile Pro
        275                 280                 285

Leu Gln Ile Glu Glu Tyr Leu Lys Asp Pro Thr Gln Pro Ile Leu Glu
    290                 295                 300

Ala Leu Asp Lys Asp Ser Ser Pro Lys Asp Asp Val Trp Asp Ser Val
305                 310                 315                 320

Ser Ile Ile Ser Phe Pro Glu Lys Glu Gln Glu Asp Val Leu Gln Thr
                325                 330                 335

Leu
```

<210> 90
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 90

```
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp
            20                  25                  30
```

```
Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn
                85                  90                  95

Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val
            100                 105                 110

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        115                 120                 125

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    130                 135                 140

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
145                 150                 155                 160

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                165                 170                 175

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            180                 185                 190

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
225                 230                 235                 240

Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
```

```
                245                 250                 255

Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn
            260                 265                 270

Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu
        275                 280                 285

Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln
    290                 295                 300

Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp
305                 310                 315                 320

Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile
                325                 330                 335

Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser
            340                 345                 350

Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe
        355                 360                 365

Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu
    370                 375                 380

Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly
385                 390                 395                 400

Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
                405                 410                 415

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
            420                 425                 430

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
        435                 440                 445

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
    450                 455                 460
```

```
Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
465                 470                 475                 480


Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
                485                 490                 495


Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
            500                 505                 510


Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His His His His
        515                 520                 525


<210> 91
<211> 658
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 91
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110
```

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr
    130                 135                 140

Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp
145                 150                 155                 160

Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser
                165                 170                 175

Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn
            180                 185                 190

Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr
        195                 200                 205

Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile
    210                 215                 220

Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn
225                 230                 235                 240

Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg
                245                 250                 255

Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met
            260                 265                 270

Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
        275                 280                 285

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
    290                 295                 300

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
305                 310                 315                 320
```

```
Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
                325                 330                 335

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
            340                 345                 350

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
        355                 360                 365

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
    370                 375                 380

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
385                 390                 395                 400

Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
                405                 410                 415

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
            420                 425                 430

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
        435                 440                 445

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
    450                 455                 460

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
465                 470                 475                 480

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
                485                 490                 495

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
            500                 505                 510

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
        515                 520                 525

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu
    530                 535                 540
```

```
Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys
545                 550                 555                 560


Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg
                565                 570                 575


Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly
            580                 585                 590


Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
        595                 600                 605


Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys
    610                 615                 620


Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp
625                 630                 635                 640


Tyr Trp Gly Lys Gly Thr Gln Val Thr Val Ser Ser His His His His
                645                 650                 655


His His
```

<210> 92
<211> 1337
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 92

```
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1               5                   10                  15


Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20                  25                  30


Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
```

```
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50                  55                  60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65                  70                  75                  80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100                 105                 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255
```

```
Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
```

```
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Gly Pro Ala Gly
            580                 585                 590

Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu
        595                 600                 605

Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys
    610                 615                 620

Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met
625                 630                 635                 640

Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu
                645                 650                 655

Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu
            660                 665                 670

Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp
        675                 680                 685
```

```
Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln
    690                 695                 700

Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro
705                 710                 715                 720

Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro
                725                 730                 735

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Ala His Lys Ser
            740                 745                 750

Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly
        755                 760                 765

Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp
    770                 775                 780

Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys
785                 790                 795                 800

Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu
                805                 810                 815

Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly
            820                 825                 830

Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys
        835                 840                 845

Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg
    850                 855                 860

Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr
865                 870                 875                 880

Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe
                885                 890                 895

Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu
```

```
            900                 905                 910

Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys
        915                 920                 925

Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg
    930                 935                 940

Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala
945                 950                 955                 960

Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala
                965                 970                 975

Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys
            980                 985                 990

Cys His Gly Asp Leu Leu Glu Cys  Ala Asp Asp Arg Ala  Glu Leu Ala
        995                 1000                1005

Lys Tyr  Met Cys Glu Asn Gln  Ala Thr Ile Ser Ser  Lys Leu Gln
    1010                1015                1020

Thr Cys  Cys Asp Lys Pro Leu  Leu Lys Lys Ala His  Cys Leu Ser
    1025                1030                1035

Glu Val  Glu His Asp Thr Met  Pro Ala Asp Leu Pro  Ala Ile Ala
    1040                1045                1050

Ala Asp  Phe Val Glu Asp Gln  Glu Val Cys Lys Asn  Tyr Ala Glu
    1055                1060                1065

Ala Lys  Asp Val Phe Leu Gly  Thr Phe Leu Tyr Glu  Tyr Ser Arg
    1070                1075                1080

Arg His  Pro Asp Tyr Ser Val  Ser Leu Leu Leu Arg  Leu Ala Lys
    1085                1090                1095

Lys Tyr  Glu Ala Thr Leu Glu  Lys Cys Cys Ala Glu  Ala Asn Pro
    1100                1105                1110
```

```
Pro Ala  Cys Tyr Gly Thr Val  Leu Ala Glu Phe Gln  Pro Leu Val
    1115                1120                1125

Glu Glu  Pro Lys Asn Leu Val  Lys Thr Asn Cys Asp  Leu Tyr Glu
    1130                1135                1140

Lys Leu  Gly Glu Tyr Gly Phe  Gln Asn Ala Ile Leu  Val Arg Tyr
    1145                1150                1155

Thr Gln  Lys Ala Pro Gln Val  Ser Thr Pro Thr Leu  Val Glu Ala
    1160                1165                1170

Ala Arg  Asn Leu Gly Arg Val  Gly Thr Lys Cys Cys  Thr Leu Pro
    1175                1180                1185

Glu Asp  Gln Arg Leu Pro Cys  Val Glu Asp Tyr Leu  Ser Ala Ile
    1190                1195                1200

Leu Asn  Arg Val Cys Leu Leu  His Glu Lys Thr Pro  Val Ser Glu
    1205                1210                1215

His Val  Thr Lys Cys Cys Ser  Gly Ser Leu Val Glu  Arg Arg Pro
    1220                1225                1230

Cys Phe  Ser Ala Leu Thr Val  Asp Glu Thr Tyr Val  Pro Lys Glu
    1235                1240                1245

Phe Lys  Ala Glu Thr Phe Thr  Phe His Ser Asp Ile  Cys Thr Leu
    1250                1255                1260

Pro Glu  Lys Glu Lys Gln Ile  Lys Lys Gln Thr Ala  Leu Ala Glu
    1265                1270                1275

Leu Val  Lys His Lys Pro Lys  Ala Thr Ala Glu Gln  Leu Lys Thr
    1280                1285                1290

Val Met  Asp Asp Phe Ala Gln  Phe Leu Asp Thr Cys  Cys Lys Ala
    1295                1300                1305

Ala Asp  Lys Asp Thr Cys Phe  Ser Thr Glu Gly Pro  Asn Leu Val
```

1310 1315 1320

Thr Arg Cys Lys Asp Ala Leu Ala His His His His His His
1325 1330 1335

<210> 93
<211> 1485
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 93
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
20 25 30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65 70 75 80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
100 105 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
115 120 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
130 135 140

```
Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365
```

```
Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575
```

```
Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Gly Pro Ala Gly
            580                 585                 590

Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu
        595                 600                 605

Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys
    610                 615                 620

Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met
625                 630                 635                 640

Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu
                645                 650                 655

Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu
            660                 665                 670

Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp
        675                 680                 685

Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln
    690                 695                 700

Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro
705                 710                 715                 720

Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Gly Gly Gly Gly
                725                 730                 735

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser His Gly Thr Val Ile
            740                 745                 750

Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp
        755                 760                 765

Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys
    770                 775                 780

Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu
785                 790                 795                 800
```

```
Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile
                805                 810                 815

Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys
            820                 825                 830

Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn
        835                 840                 845

Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His
    850                 855                 860

Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys
865                 870                 875                 880

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
                885                 890                 895

Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln
            900                 905                 910

His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys
        915                 920                 925

Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe
    930                 935                 940

Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser
945                 950                 955                 960

Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg
                965                 970                 975

Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu
            980                 985                 990

Arg Asn Glu Cys Phe Leu Gln His  Lys Asp Asp Asn Pro  Ser Leu Pro
        995                 1000                1005
```

```
Pro Phe  Glu Arg Pro Glu Ala  Glu Ala Met Cys Thr  Ser Phe Lys
    1010                1015                1020

Glu Asn  Pro Thr Thr Phe Met  Gly His Tyr Leu His  Glu Val Ala
    1025                1030                1035

Arg Arg  His Pro Tyr Phe Tyr  Ala Pro Glu Leu Leu  Tyr Tyr Ala
    1040                1045                1050

Glu Gln  Tyr Asn Glu Ile Leu  Thr Gln Cys Cys Ala  Glu Ala Asp
    1055                1060                1065

Lys Glu  Ser Cys Leu Thr Pro  Lys Leu Asp Gly Val  Lys Glu Lys
    1070                1075                1080

Ala Leu  Val Ser Ser Val Arg  Gln Arg Met Lys Cys  Ser Ser Met
    1085                1090                1095

Gln Lys  Phe Gly Glu Arg Ala  Phe Lys Ala Trp Ala  Val Ala Arg
    1100                1105                1110

Leu Ser  Gln Thr Phe Pro Asn  Ala Asp Phe Ala Glu  Ile Thr Lys
    1115                1120                1125

Leu Ala  Thr Asp Leu Thr Lys  Val Asn Lys Glu Cys  Cys His Gly
    1130                1135                1140

Asp Leu  Leu Glu Cys Ala Asp  Asp Arg Ala Glu Leu  Ala Lys Tyr
    1145                1150                1155

Met Cys  Glu Asn Gln Ala Thr  Ile Ser Ser Lys Leu  Gln Thr Cys
    1160                1165                1170

Cys Asp  Lys Pro Leu Leu Lys  Lys Ala His Cys Leu  Ser Glu Val
    1175                1180                1185

Glu His  Asp Thr Met Pro Ala  Asp Leu Pro Ala Ile  Ala Ala Asp
    1190                1195                1200

Phe Val  Glu Asp Gln Glu Val  Cys Lys Asn Tyr Ala  Glu Ala Lys
    1205                1210                1215
```

```
Asp Val  Phe Leu Gly Thr Phe  Leu Tyr Glu Tyr Ser  Arg Arg His
    1220                1225                1230

Pro Asp  Tyr Ser Val Ser Leu  Leu Leu Arg Leu Ala  Lys Lys Tyr
    1235                1240                1245

Glu Ala  Thr Leu Glu Lys Cys  Cys Ala Glu Ala Asn  Pro Pro Ala
    1250                1255                1260

Cys Tyr  Gly Thr Val Leu Ala  Glu Phe Gln Pro Leu  Val Glu Glu
    1265                1270                1275

Pro Lys  Asn Leu Val Lys Thr  Asn Cys Asp Leu Tyr  Glu Lys Leu
    1280                1285                1290

Gly Glu  Tyr Gly Phe Gln Asn  Ala Ile Leu Val Arg  Tyr Thr Gln
    1295                1300                1305

Lys Ala  Pro Gln Val Ser Thr  Pro Thr Leu Val Glu  Ala Ala Arg
    1310                1315                1320

Asn Leu  Gly Arg Val Gly Thr  Lys Cys Cys Thr Leu  Pro Glu Asp
    1325                1330                1335

Gln Arg  Leu Pro Cys Val Glu  Asp Tyr Leu Ser Ala  Ile Leu Asn
    1340                1345                1350

Arg Val  Cys Leu Leu His Glu  Lys Thr Pro Val Ser  Glu His Val
    1355                1360                1365

Thr Lys  Cys Cys Ser Gly Ser  Leu Val Glu Arg Arg  Pro Cys Phe
    1370                1375                1380

Ser Ala  Leu Thr Val Asp Glu  Thr Tyr Val Pro Lys  Glu Phe Lys
    1385                1390                1395

Ala Glu  Thr Phe Thr Phe His  Ser Asp Ile Cys Thr  Leu Pro Glu
    1400                1405                1410
```

```
Lys Glu  Lys Gln Ile Lys Lys  Gln Thr Ala Leu Ala  Glu Leu Val
    1415                1420                1425


Lys His  Lys Pro Lys Ala Thr  Ala Glu Gln Leu Lys  Thr Val Met
    1430                1435                1440


Asp Asp  Phe Ala Gln Phe Leu  Asp Thr Cys Cys Lys  Ala Ala Asp
    1445                1450                1455


Lys Asp  Thr Cys Phe Ser Thr  Glu Gly Pro Asn Leu  Val Thr Arg
    1460                1465                1470


Cys Lys  Asp Ala Leu Ala His  His His His His His
    1475                1480                1485


<210> 94
<211> 698
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 94
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80


Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95
```

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser
        275                 280                 285

Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu
    290                 295                 300

Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly
```

```
305                 310                 315                 320

Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu
                325                 330                 335

Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val
            340                 345                 350

Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys
        355                 360                 365

Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln
    370                 375                 380

Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu
385                 390                 395                 400

Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser His Gly Thr
            420                 425                 430

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
        435                 440                 445

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
    450                 455                 460

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
465                 470                 475                 480

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
                485                 490                 495

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
            500                 505                 510

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
        515                 520                 525
```

```
Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
    530                 535                 540

Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
545                 550                 555                 560

Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
                565                 570                 575

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
        595                 600                 605

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
    610                 615                 620

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
625                 630                 635                 640

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
                645                 650                 655

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
            660                 665                 670

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
        675                 680                 685

Thr Val Ser Ser His His His His His His
    690                 695
```

<210> 95
<211> 699
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 95
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145 150 155 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
165 170 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
180 185 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
195 200 205

```
Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
    290                 295                 300

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
305                 310                 315                 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                325                 330                 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            340                 345                 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        355                 360                 365

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    370                 375                 380

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385                 390                 395                 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
                405                 410                 415

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly
            420                 425                 430
```

```
Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser
        435                 440                 445

Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn
    450                 455                 460

Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser
465                 470                 475                 480

Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser
                485                 490                 495

Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser
            500                 505                 510

Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu
        515                 520                 525

Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg
    530                 535                 540

Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg
545                 550                 555                 560

Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
                565                 570                 575

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            580                 585                 590

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        595                 600                 605

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    610                 615                 620

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
625                 630                 635                 640
```

```
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
                645                 650                 655


Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
            660                 665                 670


Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
        675                 680                 685


Val Thr Val Ser Ser His His His His His His
    690                 695


<210> 96
<211> 554
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 96
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
    50                  55                  60


Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65                  70                  75                  80


Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95


Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110
```

```
Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser
        275                 280                 285

Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu
    290                 295                 300

Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly
305                 310                 315                 320

Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu
```

```
                325                 330                 335

Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val
            340                 345                 350

Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys
        355                 360                 365

Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln
    370                 375                 380

Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu
385                 390                 395                 400

Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly
                405                 410                 415

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln
            420                 425                 430

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
        435                 440                 445

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
    450                 455                 460

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
465                 470                 475                 480

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
                485                 490                 495

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
            500                 505                 510

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
        515                 520                 525

Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535                 540
```

```
His His His His His His Glu Pro Glu Ala
545                 550


<210> 97
<211> 554
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 97
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80


Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95


Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110


Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125


Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140


Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145                 150                 155                 160
```

```
Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
                165                 170                 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
            180                 185                 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
        195                 200                 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
    290                 295                 300

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
305                 310                 315                 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                325                 330                 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            340                 345                 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        355                 360                 365
```

```
Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    370                 375                 380

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385                 390                 395                 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
                405                 410                 415

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
            420                 425                 430

Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala Gln Ala Gly Gly Ser Leu
        435                 440                 445

Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asn Ser Val Met
    450                 455                 460

Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln Arg Glu Phe Val Ala Ile
465                 470                 475                 480

Ile Asn Ser Val Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg
                485                 490                 495

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln Met
            500                 505                 510

Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Val Cys Asn Arg Asn
        515                 520                 525

Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser
    530                 535                 540

His His His His His His Glu Pro Glu Ala
545                 550
```

<210> 98
<211> 702
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 98
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145 150 155 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
165 170 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
180 185 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe

```
        195                 200                 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val
    290                 295                 300

Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile
305                 310                 315                 320

Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln
                325                 330                 335

Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr
            340                 345                 350

Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn
        355                 360                 365

Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser
    370                 375                 380

Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn
385                 390                 395                 400

Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val
                405                 410                 415
```

```
His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg
            420                 425                 430

Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        435                 440                 445

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    450                 455                 460

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
465                 470                 475                 480

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                485                 490                 495

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            500                 505                 510

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        515                 520                 525

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    530                 535                 540

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
545                 550                 555                 560

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                565                 570                 575

Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala
            580                 585                 590

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser
        595                 600                 605

Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu
    610                 615                 620

Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser
```

625 630 635 640

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val
645 650 655

Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr
660 665 670

Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val
675 680 685

Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
690 695 700

<210> 99
<211> 702
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 99
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
50 55 60

Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65 70 75 80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser
        275                 280                 285

Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu
    290                 295                 300

Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly
305                 310                 315                 320
```

```
Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu
                325                 330                 335

Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val
            340                 345                 350

Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys
        355                 360                 365

Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln
    370                 375                 380

Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu
385                 390                 395                 400

Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly
                405                 410                 415

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr
            420                 425                 430

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
        435                 440                 445

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
    450                 455                 460

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
465                 470                 475                 480

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
                485                 490                 495

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
            500                 505                 510

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
        515                 520                 525
```

```
Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
    530                 535                 540

Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
545                 550                 555                 560

Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
                565                 570                 575

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
        595                 600                 605

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
    610                 615                 620

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
625                 630                 635                 640

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
                645                 650                 655

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
            660                 665                 670

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
        675                 680                 685

Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
    690                 695                 700
```

<210> 100
<211> 702
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 100
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145 150 155 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
165 170 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
180 185 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
195 200 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile

```
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val
    290                 295                 300

Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile
305                 310                 315                 320

Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln
                325                 330                 335

Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr
            340                 345                 350

Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn
        355                 360                 365

Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser
    370                 375                 380

Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn
385                 390                 395                 400

Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val
                405                 410                 415

His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg
            420                 425                 430
```

```
Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        435                 440                 445

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    450                 455                 460

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
465                 470                 475                 480

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                485                 490                 495

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            500                 505                 510

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        515                 520                 525

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    530                 535                 540

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
545                 550                 555                 560

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                565                 570                 575

Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala Gln Ala
            580                 585                 590

Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser
        595                 600                 605

Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln Arg Glu
    610                 615                 620

Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn Tyr Ala Asp Ser
625                 630                 635                 640

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val
```

645 650 655

Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Val
660 665 670

Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr Gln Val
675 680 685

Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
690 695 700

<210> 101
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 101
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

```
Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145                 150                 155                 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
                165                 170                 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
            180                 185                 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
        195                 200                 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val
    290                 295                 300

Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile
305                 310                 315                 320

Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln
                325                 330                 335
```

```
Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr
            340                 345                 350

Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn
        355                 360                 365

Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser
    370                 375                 380

Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn
385                 390                 395                 400

Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val
                405                 410                 415

His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg
            420                 425                 430

Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        435                 440                 445

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    450                 455                 460

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
465                 470                 475                 480

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                485                 490                 495

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            500                 505                 510

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        515                 520                 525

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    530                 535                 540
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
545                 550                 555                 560


Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                565                 570                 575


Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            580                 585                 590


Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        595                 600                 605


Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    610                 615                 620


Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp
625                 630                 635                 640


Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                645                 650                 655


Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            660                 665                 670


Tyr Cys Ala Arg Gly Val Gly Ala Phe Arg Pro Tyr Arg Lys His Glu
        675                 680                 685


Trp Gly Gln Gly Thr Leu Val Thr Val Ser Arg Gly Gly Gly Gly Ser
    690                 695                 700


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Ser Glu Leu Thr Gln
705                 710                 715                 720


Asp Pro Ala Val Ser Val Ala Leu Gly Gln Thr Val Arg Ile Thr Cys
                725                 730                 735


Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys
            740                 745                 750


Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Lys Asn Asn Arg Pro
        755                 760                 765
```

```
Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Asn Thr Ala
    770                 775                 780

Ser Leu Thr Thr Thr Gly Ala Gln Ala Glu Asp Glu Ala Asp Tyr Tyr
785                 790                 795                 800

Cys Asn Ser Ser Pro Phe Glu His Asn Leu Val Val Phe Gly Gly Gly
                805                 810                 815

Thr Lys Leu Thr Val Leu His His His His His His Glu Pro Glu Ala
            820                 825                 830

<210> 102
<211> 276
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 102
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Phe Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gly Leu Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr
65                  70                  75                  80

Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95

Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
```

```
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Ala Arg Gly Val Gly Ala Phe Arg Pro Tyr
        115                 120                 125

Arg Lys His Glu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Arg Gly
    130                 135                 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Ser
145                 150                 155                 160

Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln Thr Val
                165                 170                 175

Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala Ser Trp
            180                 185                 190

Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Lys
        195                 200                 205

Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser
    210                 215                 220

Gly Asn Thr Ala Ser Leu Thr Thr Thr Gly Ala Gln Ala Glu Asp Glu
225                 230                 235                 240

Ala Asp Tyr Tyr Cys Asn Ser Ser Pro Phe Glu His Asn Leu Val Val
                245                 250                 255

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu His His His His His His
            260                 265                 270

Glu Pro Glu Ala
        275


<210> 103
<211> 573
<212> PRT
<213> Artificial Sequence

<220>
<221> source
```

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 103

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                  10                  15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145                 150                 155                 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
                165                 170                 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
            180                 185                 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
        195                 200                 205
```

```
Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
    290                 295                 300

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
305                 310                 315                 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                325                 330                 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            340                 345                 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        355                 360                 365

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    370                 375                 380

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385                 390                 395                 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
                405                 410                 415
```

```
Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly
            420                 425                 430

Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser
        435                 440                 445

Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn
    450                 455                 460

Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser
465                 470                 475                 480

Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser
                485                 490                 495

Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser
            500                 505                 510

Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu
        515                 520                 525

Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg
    530                 535                 540

Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg
545                 550                 555                 560

Ser Arg Cys His His His His His His Glu Pro Glu Ala
                565                 570
```

<210> 104
<211> 573
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 104

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15
```

```
Leu Arg Gly Ala Arg Cys His Gly Thr Val Ile Glu Ser Leu Glu Ser
            20                  25                  30

Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser
        35                  40                  45

Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys
    50                  55                  60

Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val
65                  70                  75                  80

Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser
                85                  90                  95

His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala
            100                 105                 110

Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg
        115                 120                 125

Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu
    130                 135                 140

Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
```

```
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val
    290                 295                 300

Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile
305                 310                 315                 320

Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln
                325                 330                 335

Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr
            340                 345                 350

Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn
        355                 360                 365

Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser
    370                 375                 380

Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn
385                 390                 395                 400

Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val
                405                 410                 415

His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg
            420                 425                 430

Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        435                 440                 445
```

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    450                 455                 460

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
465                 470                 475                 480

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                485                 490                 495

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            500                 505                 510

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        515                 520                 525

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    530                 535                 540

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
545                 550                 555                 560

Val Ser Ser His His His His His His Glu Pro Glu Ala
                565                 570


<210> 105
<211> 1511
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 105
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys His Gly Thr Val Ile Glu Ser Leu Glu Ser
            20                  25                  30

Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser
        35                  40                  45
```

```
Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys
    50                  55                  60

Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val
65                  70                  75                  80

Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser
                85                  90                  95

His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala
            100                 105                 110

Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg
        115                 120                 125

Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu
    130                 135                 140

Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Ala His Lys Ser Glu
                165                 170                 175

Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu
            180                 185                 190

Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu
        195                 200                 205

His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val
    210                 215                 220

Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe
225                 230                 235                 240

Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu
                245                 250                 255
```

```
Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
            260                 265                 270

Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro
        275                 280                 285

Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe
    290                 295                 300

Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr
305                 310                 315                 320

Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr
                325                 330                 335

Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu
            340                 345                 350

Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met
        355                 360                 365

Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
    370                 375                 380

Ala Val Ala Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu
385                 390                 395                 400

Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys
                405                 410                 415

His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys
            420                 425                 430

Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys
        435                 440                 445

Cys Asp Lys Pro Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu
    450                 455                 460

His Asp Thr Met Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val
465                 470                 475                 480
```

```
Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
                485                 490                 495

Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser
            500                 505                 510

Val Ser Leu Leu Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu
        515                 520                 525

Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu
    530                 535                 540

Ala Glu Phe Gln Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr
545                 550                 555                 560

Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala
                565                 570                 575

Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr
            580                 585                 590

Leu Val Glu Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys
        595                 600                 605

Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser
    610                 615                 620

Ala Ile Leu Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser
625                 630                 635                 640

Glu His Val Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro
                645                 650                 655

Cys Phe Ser Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
            660                 665                 670

Lys Ala Glu Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu
        675                 680                 685
```

```
Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys
    690                 695                 700

His Lys Pro Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp
705                 710                 715                 720

Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr
                725                 730                 735

Cys Phe Ser Thr Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala
            740                 745                 750

Leu Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        755                 760                 765

Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe
    770                 775                 780

Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile
785                 790                 795                 800

Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln
                805                 810                 815

Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln
            820                 825                 830

Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr
        835                 840                 845

Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala
    850                 855                 860

Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu
865                 870                 875                 880

Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys
                885                 890                 895

Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            900                 905                 910
```

```
Gly Leu Pro Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr
        915                 920                 925

Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe
    930                 935                 940

Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val
945                 950                 955                 960

Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala
                965                 970                 975

Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys
            980                 985                 990

Ala Ile Pro Asn Leu Arg Glu Asn  Tyr Gly Glu Leu Ala  Asp Cys Cys
        995                 1000                1005

Thr Lys  Gln Glu Pro Glu Arg  Asn Glu Cys Phe Leu  Gln His Lys
    1010                1015                1020

Asp Asp  Asn Pro Ser Leu Pro  Pro Phe Glu Arg Pro  Glu Ala Glu
    1025                1030                1035

Ala Met  Cys Thr Ser Phe Lys  Glu Asn Pro Thr Thr  Phe Met Gly
    1040                1045                1050

His Tyr  Leu His Glu Val Ala  Arg Arg His Pro Tyr  Phe Tyr Ala
    1055                1060                1065

Pro Glu  Leu Leu Tyr Tyr Ala  Glu Gln Tyr Asn Glu  Ile Leu Thr
    1070                1075                1080

Gln Cys  Cys Ala Glu Ala Asp  Lys Glu Ser Cys Leu  Thr Pro Lys
    1085                1090                1095

Leu Asp  Gly Val Lys Glu Lys  Ala Leu Val Ser Ser  Val Arg Gln
    1100                1105                1110
```

```
Arg Met  Lys Cys Ser Ser Met  Gln Lys Phe Gly Glu  Arg Ala Phe
    1115                1120                1125

Lys Ala  Trp Ala Val Ala Arg  Leu Ser Gln Thr Phe  Pro Asn Ala
    1130                1135                1140

Asp Phe  Ala Glu Ile Thr Lys  Leu Ala Thr Asp Leu  Thr Lys Val
    1145                1150                1155

Asn Lys  Glu Cys Cys His Gly  Asp Leu Leu Glu Cys  Ala Asp Asp
    1160                1165                1170

Arg Ala  Glu Leu Ala Lys Tyr  Met Cys Glu Asn Gln  Ala Thr Ile
    1175                1180                1185

Ser Ser  Lys Leu Gln Thr Cys  Cys Asp Lys Pro Leu  Leu Lys Lys
    1190                1195                1200

Ala His  Cys Leu Ser Glu Val  Glu His Asp Thr Met  Pro Ala Asp
    1205                1210                1215

Leu Pro  Ala Ile Ala Ala Asp  Phe Val Glu Asp Gln  Glu Val Cys
    1220                1225                1230

Lys Asn  Tyr Ala Glu Ala Lys  Asp Val Phe Leu Gly  Thr Phe Leu
    1235                1240                1245

Tyr Glu  Tyr Ser Arg Arg His  Pro Asp Tyr Ser Val  Ser Leu Leu
    1250                1255                1260

Leu Arg  Leu Ala Lys Lys Tyr  Glu Ala Thr Leu Glu  Lys Cys Cys
    1265                1270                1275

Ala Glu  Ala Asn Pro Pro Ala  Cys Tyr Gly Thr Val  Leu Ala Glu
    1280                1285                1290

Phe Gln  Pro Leu Val Glu Glu  Pro Lys Asn Leu Val  Lys Thr Asn
    1295                1300                1305

Cys Asp  Leu Tyr Glu Lys Leu  Gly Glu Tyr Gly Phe  Gln Asn Ala
    1310                1315                1320
```

```
Ile Leu  Val Arg Tyr Thr Gln  Lys Ala Pro Gln Val  Ser Thr Pro
    1325                1330                1335

Thr Leu  Val Glu Ala Ala Arg  Asn Leu Gly Arg Val  Gly Thr Lys
    1340                1345                1350

Cys Cys  Thr Leu Pro Glu Asp  Gln Arg Leu Pro Cys  Val Glu Asp
    1355                1360                1365

Tyr Leu  Ser Ala Ile Leu Asn  Arg Val Cys Leu Leu  His Glu Lys
    1370                1375                1380

Thr Pro  Val Ser Glu His Val  Thr Lys Cys Cys Ser  Gly Ser Leu
    1385                1390                1395

Val Glu  Arg Arg Pro Cys Phe  Ser Ala Leu Thr Val  Asp Glu Thr
    1400                1405                1410

Tyr Val  Pro Lys Glu Phe Lys  Ala Glu Thr Phe Thr  Phe His Ser
    1415                1420                1425

Asp Ile  Cys Thr Leu Pro Glu  Lys Glu Lys Gln Ile  Lys Lys Gln
    1430                1435                1440

Thr Ala  Leu Ala Glu Leu Val  Lys His Lys Pro Lys  Ala Thr Ala
    1445                1450                1455

Glu Gln  Leu Lys Thr Val Met  Asp Asp Phe Ala Gln  Phe Leu Asp
    1460                1465                1470

Thr Cys  Cys Lys Ala Ala Asp  Lys Asp Thr Cys Phe  Ser Thr Glu
    1475                1480                1485

Gly Pro  Asn Leu Val Thr Arg  Cys Lys Asp Ala Leu  Ala His His
    1490                1495                1500

His His  His His Glu Pro Glu  Ala
    1505                1510
```

<210> 106
<211> 1511
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 106
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Ala His Lys Ser Glu Ile Ala His Arg
20 25 30

Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
35 40 45

Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
50 55 60

Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
65 70 75 80

Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
85 90 95

Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
100 105 110

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
115 120 125

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
130 135 140

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
145 150 155 160

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
165 170 175

```
Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
            180                 185                 190

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
        195                 200                 205

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
    210                 215                 220

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
225                 230                 235                 240

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
                245                 250                 255

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
            260                 265                 270

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
        275                 280                 285

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
    290                 295                 300

Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
305                 310                 315                 320

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
                325                 330                 335

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
            340                 345                 350

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
        355                 360                 365

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
    370                 375                 380

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
```

```
385                 390                 395                 400

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
        595                 600                 605
```

```
Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr
    610                 615                 620

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
625                 630                 635                 640

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
                645                 650                 655

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
            660                 665                 670

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
        675                 680                 685

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
    690                 695                 700

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
705                 710                 715                 720

Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
                725                 730                 735

Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
            740                 745                 750

Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        755                 760                 765

Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly
    770                 775                 780

Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu
785                 790                 795                 800

Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr
                805                 810                 815

Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp
```

```
            820                 825                 830

Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn
        835                 840                 845

Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu
    850                 855                 860

Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser
865                 870                 875                 880

Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe
                885                 890                 895

Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala
            900                 905                 910

Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu
        915                 920                 925

Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu
    930                 935                 940

Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val
945                 950                 955                 960

Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly
                965                 970                 975

Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe
            980                 985                 990

Pro Asn Ala Asp Phe Ala Glu Ile  Thr Lys Leu Ala Thr  Asp Leu Thr
        995                 1000                1005

Lys Val  Asn Lys Glu Cys Cys  His Gly Asp Leu Leu  Glu Cys Ala
    1010                1015                1020

Asp Asp  Arg Ala Glu Leu Ala  Lys Tyr Met Cys Glu  Asn Gln Ala
    1025                1030                1035
```

```
Thr Ile  Ser Ser Lys Leu Gln  Thr Cys Cys Asp Lys  Pro Leu Leu
    1040                1045                1050

Lys Lys  Ala His Cys Leu Ser  Glu Val Glu His Asp  Thr Met Pro
    1055                1060                1065

Ala Asp  Leu Pro Ala Ile Ala  Ala Asp Phe Val Glu  Asp Gln Glu
    1070                1075                1080

Val Cys  Lys Asn Tyr Ala Glu  Ala Lys Asp Val Phe  Leu Gly Thr
    1085                1090                1095

Phe Leu  Tyr Glu Tyr Ser Arg  Arg His Pro Asp Tyr  Ser Val Ser
    1100                1105                1110

Leu Leu  Leu Arg Leu Ala Lys  Lys Tyr Glu Ala Thr  Leu Glu Lys
    1115                1120                1125

Cys Cys  Ala Glu Ala Asn Pro  Pro Ala Cys Tyr Gly  Thr Val Leu
    1130                1135                1140

Ala Glu  Phe Gln Pro Leu Val  Glu Glu Pro Lys Asn  Leu Val Lys
    1145                1150                1155

Thr Asn  Cys Asp Leu Tyr Glu  Lys Leu Gly Glu Tyr  Gly Phe Gln
    1160                1165                1170

Asn Ala  Ile Leu Val Arg Tyr  Thr Gln Lys Ala Pro  Gln Val Ser
    1175                1180                1185

Thr Pro  Thr Leu Val Glu Ala  Ala Arg Asn Leu Gly  Arg Val Gly
    1190                1195                1200

Thr Lys  Cys Cys Thr Leu Pro  Glu Asp Gln Arg Leu  Pro Cys Val
    1205                1210                1215

Glu Asp  Tyr Leu Ser Ala Ile  Leu Asn Arg Val Cys  Leu Leu His
    1220                1225                1230

Glu Lys  Thr Pro Val Ser Glu  His Val Thr Lys Cys  Cys Ser Gly
```

```
    1235                1240                1245

Ser Leu  Val Glu Arg Arg Pro  Cys Phe Ser Ala Leu  Thr Val Asp
    1250                1255                1260

Glu Thr  Tyr Val Pro Lys Glu  Phe Lys Ala Glu Thr  Phe Thr Phe
    1265                1270                1275

His Ser  Asp Ile Cys Thr Leu  Pro Glu Lys Glu Lys  Gln Ile Lys
    1280                1285                1290

Lys Gln  Thr Ala Leu Ala Glu  Leu Val Lys His Lys  Pro Lys Ala
    1295                1300                1305

Thr Ala  Glu Gln Leu Lys Thr  Val Met Asp Asp Phe  Ala Gln Phe
    1310                1315                1320

Leu Asp  Thr Cys Cys Lys Ala  Ala Asp Lys Asp Thr  Cys Phe Ser
    1325                1330                1335

Thr Glu  Gly Pro Asn Leu Val  Thr Arg Cys Lys Asp  Ala Leu Ala
    1340                1345                1350

Ser Gly  Gly Pro Gly Pro Ala  Gly Met Lys Gly Leu  Pro Gly Ser
    1355                1360                1365

His Gly  Thr Val Ile Glu Ser  Leu Glu Ser Leu Asn  Asn Tyr Phe
    1370                1375                1380

Asn Ser  Ser Gly Ile Asp Val  Glu Glu Lys Ser Leu  Phe Leu Asp
    1385                1390                1395

Ile Trp  Arg Asn Trp Gln Lys  Asp Gly Asp Met Lys  Ile Leu Gln
    1400                1405                1410

Ser Gln  Ile Ile Ser Phe Tyr  Leu Arg Leu Phe Glu  Val Leu Lys
    1415                1420                1425

Asp Asn  Gln Ala Ile Ser Asn  Asn Ile Ser Val Ile  Glu Ser His
    1430                1435                1440
```

```
Leu Ile  Thr Thr Phe Phe Ser  Asn Ser Lys Ala Lys  Lys Asp Ala
    1445                1450                1455


Phe Met  Ser Ile Ala Lys Phe  Glu Val Asn Asn Pro  Gln Val Gln
    1460                1465                1470


Arg Gln  Ala Phe Asn Glu Leu  Ile Arg Val Val His  Gln Leu Leu
    1475                1480                1485


Pro Glu  Ser Ser Leu Arg Lys  Arg Lys Arg Ser Arg  Cys His His
    1490                1495                1500


His His  His His Glu Pro Glu  Ala
    1505                1510
```

<210> 107
<211> 2110
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 107

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                  10                  15


Leu Arg Gly Ala Arg Cys Glu Ala His Lys Ser Glu Ile Ala His Arg
            20                  25                  30


Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
        35                  40                  45


Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
    50                  55                  60


Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
65                  70                  75                  80


Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
                85                  90                  95
```

```
Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
            100                 105                 110

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
        115                 120                 125

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
    130                 135                 140

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
145                 150                 155                 160

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
                165                 170                 175

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
            180                 185                 190

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
        195                 200                 205

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
    210                 215                 220

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
225                 230                 235                 240

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
                245                 250                 255

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
            260                 265                 270

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
        275                 280                 285

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
    290                 295                 300
```

```
Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
305                 310                 315                 320

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
                325                 330                 335

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
            340                 345                 350

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
        355                 360                 365

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
    370                 375                 380

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
385                 390                 395                 400

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525
```

```
Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
        595                 600                 605

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr
    610                 615                 620

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
625                 630                 635                 640

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
                645                 650                 655

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
            660                 665                 670

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
        675                 680                 685

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
    690                 695                 700

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
705                 710                 715                 720

Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
                725                 730                 735
```

```
Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
            740                 745                 750

Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        755                 760                 765

Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly
    770                 775                 780

Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu
785                 790                 795                 800

Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr
                805                 810                 815

Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp
            820                 825                 830

Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn
        835                 840                 845

Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu
    850                 855                 860

Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser
865                 870                 875                 880

Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe
                885                 890                 895

Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala
            900                 905                 910

Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu
        915                 920                 925

Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu
    930                 935                 940

Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val
945                 950                 955                 960
```

```
Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly
                965                 970                 975

Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe
            980                 985                 990

Pro Asn Ala Asp Phe Ala Glu Ile  Thr Lys Leu Ala Thr  Asp Leu Thr
        995                 1000                1005

Lys Val  Asn Lys Glu Cys Cys  His Gly Asp Leu Leu  Glu Cys Ala
    1010                1015                1020

Asp Asp  Arg Ala Glu Leu Ala  Lys Tyr Met Cys Glu  Asn Gln Ala
    1025                1030                1035

Thr Ile  Ser Ser Lys Leu Gln  Thr Cys Cys Asp Lys  Pro Leu Leu
    1040                1045                1050

Lys Lys  Ala His Cys Leu Ser  Glu Val Glu His Asp  Thr Met Pro
    1055                1060                1065

Ala Asp  Leu Pro Ala Ile Ala  Ala Asp Phe Val Glu  Asp Gln Glu
    1070                1075                1080

Val Cys  Lys Asn Tyr Ala Glu  Ala Lys Asp Val Phe  Leu Gly Thr
    1085                1090                1095

Phe Leu  Tyr Glu Tyr Ser Arg  Arg His Pro Asp Tyr  Ser Val Ser
    1100                1105                1110

Leu Leu  Leu Arg Leu Ala Lys  Lys Tyr Glu Ala Thr  Leu Glu Lys
    1115                1120                1125

Cys Cys  Ala Glu Ala Asn Pro  Pro Ala Cys Tyr Gly  Thr Val Leu
    1130                1135                1140

Ala Glu  Phe Gln Pro Leu Val  Glu Glu Pro Lys Asn  Leu Val Lys
    1145                1150                1155
```

```
Thr Asn  Cys Asp Leu Tyr Glu  Lys Leu Gly Glu Tyr  Gly Phe Gln
    1160                 1165                 1170

Asn Ala  Ile Leu Val Arg Tyr  Thr Gln Lys Ala Pro  Gln Val Ser
    1175                 1180                 1185

Thr Pro  Thr Leu Val Glu Ala  Ala Arg Asn Leu Gly  Arg Val Gly
    1190                 1195                 1200

Thr Lys  Cys Cys Thr Leu Pro  Glu Asp Gln Arg Leu  Pro Cys Val
    1205                 1210                 1215

Glu Asp  Tyr Leu Ser Ala Ile  Leu Asn Arg Val Cys  Leu Leu His
    1220                 1225                 1230

Glu Lys  Thr Pro Val Ser Glu  His Val Thr Lys Cys  Cys Ser Gly
    1235                 1240                 1245

Ser Leu  Val Glu Arg Arg Pro  Cys Phe Ser Ala Leu  Thr Val Asp
    1250                 1255                 1260

Glu Thr  Tyr Val Pro Lys Glu  Phe Lys Ala Glu Thr  Phe Thr Phe
    1265                 1270                 1275

His Ser  Asp Ile Cys Thr Leu  Pro Glu Lys Glu Lys  Gln Ile Lys
    1280                 1285                 1290

Lys Gln  Thr Ala Leu Ala Glu  Leu Val Lys His Lys  Pro Lys Ala
    1295                 1300                 1305

Thr Ala  Glu Gln Leu Lys Thr  Val Met Asp Asp Phe  Ala Gln Phe
    1310                 1315                 1320

Leu Asp  Thr Cys Cys Lys Ala  Ala Asp Lys Asp Thr  Cys Phe Ser
    1325                 1330                 1335

Thr Glu  Gly Pro Asn Leu Val  Thr Arg Cys Lys Asp  Ala Leu Ala
    1340                 1345                 1350

Ser Gly  Gly Pro Gly Pro Ala  Gly Met Lys Gly Leu  Pro Gly Ser
    1355                 1360                 1365
```

```
His Gly  Thr Val Ile Glu Ser  Leu Glu Ser Leu Asn  Asn Tyr Phe
    1370                1375                1380

Asn Ser  Ser Gly Ile Asp Val  Glu Glu Lys Ser Leu  Phe Leu Asp
    1385                1390                1395

Ile Trp  Arg Asn Trp Gln Lys  Asp Gly Asp Met Lys  Ile Leu Gln
    1400                1405                1410

Ser Gln  Ile Ile Ser Phe Tyr  Leu Arg Leu Phe Glu  Val Leu Lys
    1415                1420                1425

Asp Asn  Gln Ala Ile Ser Asn  Asn Ile Ser Val Ile  Glu Ser His
    1430                1435                1440

Leu Ile  Thr Thr Phe Phe Ser  Asn Ser Lys Ala Lys  Lys Asp Ala
    1445                1450                1455

Phe Met  Ser Ile Ala Lys Phe  Glu Val Asn Asn Pro  Gln Val Gln
    1460                1465                1470

Arg Gln  Ala Phe Asn Glu Leu  Ile Arg Val Val His  Gln Leu Leu
    1475                1480                1485

Pro Glu  Ser Ser Leu Arg Lys  Arg Lys Arg Ser Arg  Cys Ser Gly
    1490                1495                1500

Gly Pro  Gly Pro Ala Gly Met  Lys Gly Leu Pro Gly  Ser Glu Ala
    1505                1510                1515

His Lys  Ser Glu Ile Ala His  Arg Tyr Asn Asp Leu  Gly Glu Gln
    1520                1525                1530

His Phe  Lys Gly Leu Val Leu  Ile Ala Phe Ser Gln  Tyr Leu Gln
    1535                1540                1545

Lys Cys  Ser Tyr Asp Glu His  Ala Lys Leu Val Gln  Glu Val Thr
    1550                1555                1560
```

```
Asp Phe  Ala Lys Thr Cys Val  Ala Asp Glu Ser Ala  Ala Asn Cys
    1565                1570                1575

Asp Lys  Ser Leu His Thr Leu  Phe Gly Asp Lys Leu  Cys Ala Ile
    1580                1585                1590

Pro Asn  Leu Arg Glu Asn Tyr  Gly Glu Leu Ala Asp  Cys Cys Thr
    1595                1600                1605

Lys Gln  Glu Pro Glu Arg Asn  Glu Cys Phe Leu Gln  His Lys Asp
    1610                1615                1620

Asp Asn  Pro Ser Leu Pro Pro  Phe Glu Arg Pro Glu  Ala Glu Ala
    1625                1630                1635

Met Cys  Thr Ser Phe Lys Glu  Asn Pro Thr Thr Phe  Met Gly His
    1640                1645                1650

Tyr Leu  His Glu Val Ala Arg  Arg His Pro Tyr Phe  Tyr Ala Pro
    1655                1660                1665

Glu Leu  Leu Tyr Tyr Ala Glu  Gln Tyr Asn Glu Ile  Leu Thr Gln
    1670                1675                1680

Cys Cys  Ala Glu Ala Asp Lys  Glu Ser Cys Leu Thr  Pro Lys Leu
    1685                1690                1695

Asp Gly  Val Lys Glu Lys Ala  Leu Val Ser Ser Val  Arg Gln Arg
    1700                1705                1710

Met Lys  Cys Ser Ser Met Gln  Lys Phe Gly Glu Arg  Ala Phe Lys
    1715                1720                1725

Ala Trp  Ala Val Ala Arg Leu  Ser Gln Thr Phe Pro  Asn Ala Asp
    1730                1735                1740

Phe Ala  Glu Ile Thr Lys Leu  Ala Thr Asp Leu Thr  Lys Val Asn
    1745                1750                1755

Lys Glu  Cys Cys His Gly Asp  Leu Leu Glu Cys Ala  Asp Asp Arg
    1760                1765                1770
```

```
Ala Glu  Leu Ala Lys Tyr Met  Cys Glu Asn Gln Ala  Thr Ile Ser
    1775                1780                1785

Ser Lys  Leu Gln Thr Cys Cys  Asp Lys Pro Leu Leu  Lys Lys Ala
    1790                1795                1800

His Cys  Leu Ser Glu Val Glu  His Asp Thr Met Pro  Ala Asp Leu
    1805                1810                1815

Pro Ala  Ile Ala Ala Asp Phe  Val Glu Asp Gln Glu  Val Cys Lys
    1820                1825                1830

Asn Tyr  Ala Glu Ala Lys Asp  Val Phe Leu Gly Thr  Phe Leu Tyr
    1835                1840                1845

Glu Tyr  Ser Arg Arg His Pro  Asp Tyr Ser Val Ser  Leu Leu Leu
    1850                1855                1860

Arg Leu  Ala Lys Lys Tyr Glu  Ala Thr Leu Glu Lys  Cys Cys Ala
    1865                1870                1875

Glu Ala  Asn Pro Pro Ala Cys  Tyr Gly Thr Val Leu  Ala Glu Phe
    1880                1885                1890

Gln Pro  Leu Val Glu Glu Pro  Lys Asn Leu Val Lys  Thr Asn Cys
    1895                1900                1905

Asp Leu  Tyr Glu Lys Leu Gly  Glu Tyr Gly Phe Gln  Asn Ala Ile
    1910                1915                1920

Leu Val  Arg Tyr Thr Gln Lys  Ala Pro Gln Val Ser  Thr Pro Thr
    1925                1930                1935

Leu Val  Glu Ala Ala Arg Asn  Leu Gly Arg Val Gly  Thr Lys Cys
    1940                1945                1950

Cys Thr  Leu Pro Glu Asp Gln  Arg Leu Pro Cys Val  Glu Asp Tyr
    1955                1960                1965
```

```
Leu Ser  Ala Ile Leu Asn Arg  Val Cys Leu Leu His  Glu Lys Thr
    1970                 1975                 1980


Pro Val  Ser Glu His Val Thr  Lys Cys Cys Ser Gly  Ser Leu Val
    1985                 1990                 1995


Glu Arg  Arg Pro Cys Phe Ser  Ala Leu Thr Val Asp  Glu Thr Tyr
    2000                 2005                 2010


Val Pro  Lys Glu Phe Lys Ala  Glu Thr Phe Thr Phe  His Ser Asp
    2015                 2020                 2025


Ile Cys  Thr Leu Pro Glu Lys  Glu Lys Gln Ile Lys  Lys Gln Thr
    2030                 2035                 2040


Ala Leu  Ala Glu Leu Val Lys  His Lys Pro Lys Ala  Thr Ala Glu
    2045                 2050                 2055


Gln Leu  Lys Thr Val Met Asp  Asp Phe Ala Gln Phe  Leu Asp Thr
    2060                 2065                 2070


Cys Cys  Lys Ala Ala Asp Lys  Asp Thr Cys Phe Ser  Thr Glu Gly
    2075                 2080                 2085


Pro Asn  Leu Val Thr Arg Cys  Lys Asp Ala Leu Ala  His His His
    2090                 2095                 2100


His His  His Glu Pro Glu Ala
    2105                 2110


<210> 108
<211> 2120
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 108
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                  10                  15
```

```
Leu Arg Gly Ala Arg Cys Glu Ala His Lys Ser Glu Ile Ala His Arg
            20                  25                  30

Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
        35                  40                  45

Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
    50                  55                  60

Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
65                  70                  75                  80

Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
                85                  90                  95

Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
            100                 105                 110

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
        115                 120                 125

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
    130                 135                 140

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
145                 150                 155                 160

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
                165                 170                 175

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
            180                 185                 190

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
        195                 200                 205

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
    210                 215                 220

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
```

```
225                 230                 235                 240

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
                245                 250                 255

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
            260                 265                 270

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
        275                 280                 285

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
    290                 295                 300

Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
305                 310                 315                 320

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
                325                 330                 335

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
            340                 345                 350

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
        355                 360                 365

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
    370                 375                 380

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
385                 390                 395                 400

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445
```

```
Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
        595                 600                 605

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr
    610                 615                 620

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
625                 630                 635                 640

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
                645                 650                 655

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
```

660 665 670

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
675 680 685

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
690 695 700

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
705 710 715 720

Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
725 730 735

Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
740 745 750

Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
755 760 765

Ser Gly Gly Gly Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg
770 775 780

Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
785 790 795 800

Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
805 810 815

Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
820 825 830

Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
835 840 845

Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
850 855 860

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
865 870 875 880

```
Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
               885                 890                 895

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
            900                 905                 910

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
        915                 920                 925

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
    930                 935                 940

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
945                 950                 955                 960

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
               965                 970                 975

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
            980                 985                 990

Leu Ser Gln Thr Phe Pro Asn Ala  Asp Phe Ala Glu Ile  Thr Lys Leu
        995                 1000                1005

Ala Thr  Asp Leu Thr Lys Val  Asn Lys Glu Cys Cys  His Gly Asp
    1010                1015                1020

Leu Leu  Glu Cys Ala Asp Asp  Arg Ala Glu Leu Ala  Lys Tyr Met
    1025                1030                1035

Cys Glu  Asn Gln Ala Thr Ile  Ser Ser Lys Leu Gln  Thr Cys Cys
    1040                1045                1050

Asp Lys  Pro Leu Leu Lys Lys  Ala His Cys Leu Ser  Glu Val Glu
    1055                1060                1065

His Asp  Thr Met Pro Ala Asp  Leu Pro Ala Ile Ala  Ala Asp Phe
    1070                1075                1080

Val Glu  Asp Gln Glu Val Cys  Lys Asn Tyr Ala Glu  Ala Lys Asp
```

```
    1085                1090                1095

Val Phe  Leu Gly Thr Phe Leu  Tyr Glu Tyr Ser Arg  Arg His Pro
    1100                1105                1110

Asp Tyr  Ser Val Ser Leu Leu  Leu Arg Leu Ala Lys  Lys Tyr Glu
    1115                1120                1125

Ala Thr  Leu Glu Lys Cys Cys  Ala Glu Ala Asn Pro  Pro Ala Cys
    1130                1135                1140

Tyr Gly  Thr Val Leu Ala Glu  Phe Gln Pro Leu Val  Glu Glu Pro
    1145                1150                1155

Lys Asn  Leu Val Lys Thr Asn  Cys Asp Leu Tyr Glu  Lys Leu Gly
    1160                1165                1170

Glu Tyr  Gly Phe Gln Asn Ala  Ile Leu Val Arg Tyr  Thr Gln Lys
    1175                1180                1185

Ala Pro  Gln Val Ser Thr Pro  Thr Leu Val Glu Ala  Ala Arg Asn
    1190                1195                1200

Leu Gly  Arg Val Gly Thr Lys  Cys Cys Thr Leu Pro  Glu Asp Gln
    1205                1210                1215

Arg Leu  Pro Cys Val Glu Asp  Tyr Leu Ser Ala Ile  Leu Asn Arg
    1220                1225                1230

Val Cys  Leu Leu His Glu Lys  Thr Pro Val Ser Glu  His Val Thr
    1235                1240                1245

Lys Cys  Cys Ser Gly Ser Leu  Val Glu Arg Arg Pro  Cys Phe Ser
    1250                1255                1260

Ala Leu  Thr Val Asp Glu Thr  Tyr Val Pro Lys Glu  Phe Lys Ala
    1265                1270                1275

Glu Thr  Phe Thr Phe His Ser  Asp Ile Cys Thr Leu  Pro Glu Lys
    1280                1285                1290
```

```
Glu Lys  Gln Ile Lys Lys Gln  Thr Ala Leu Ala Glu  Leu Val Lys
    1295                 1300                 1305

His Lys  Pro Lys Ala Thr Ala  Glu Gln Leu Lys Thr  Val Met Asp
    1310                 1315                 1320

Asp Phe  Ala Gln Phe Leu Asp  Thr Cys Cys Lys Ala  Ala Asp Lys
    1325                 1330                 1335

Asp Thr  Cys Phe Ser Thr Glu  Gly Pro Asn Leu Val  Thr Arg Cys
    1340                 1345                 1350

Lys Asp  Ala Leu Ala Gly Gly  Gly Gly Ser Ser Gly  Gly Pro Gly
    1355                 1360                 1365

Pro Ala  Gly Met Lys Gly Leu  Pro Gly Ser His Gly  Thr Val Ile
    1370                 1375                 1380

Glu Ser  Leu Glu Ser Leu Asn  Asn Tyr Phe Asn Ser  Ser Gly Ile
    1385                 1390                 1395

Asp Val  Glu Glu Lys Ser Leu  Phe Leu Asp Ile Trp  Arg Asn Trp
    1400                 1405                 1410

Gln Lys  Asp Gly Asp Met Lys  Ile Leu Gln Ser Gln  Ile Ile Ser
    1415                 1420                 1425

Phe Tyr  Leu Arg Leu Phe Glu  Val Leu Lys Asp Asn  Gln Ala Ile
    1430                 1435                 1440

Ser Asn  Asn Ile Ser Val Ile  Glu Ser His Leu Ile  Thr Thr Phe
    1445                 1450                 1455

Phe Ser  Asn Ser Lys Ala Lys  Lys Asp Ala Phe Met  Ser Ile Ala
    1460                 1465                 1470

Lys Phe  Glu Val Asn Asn Pro  Gln Val Gln Arg Gln  Ala Phe Asn
    1475                 1480                 1485

Glu Leu  Ile Arg Val Val His  Gln Leu Leu Pro Glu  Ser Ser Leu
```

```
    1490                1495                1500

Arg Lys  Arg Lys Arg Ser Arg  Cys Ser Gly Gly Pro  Gly Pro Ala
    1505                1510                1515

Gly Met  Lys Gly Leu Pro Gly  Ser Glu Ala His Lys  Ser Glu Ile
    1520                1525                1530

Ala His  Arg Tyr Asn Asp Leu  Gly Glu Gln His Phe  Lys Gly Leu
    1535                1540                1545

Val Leu  Ile Ala Phe Ser Gln  Tyr Leu Gln Lys Cys  Ser Tyr Asp
    1550                1555                1560

Glu His  Ala Lys Leu Val Gln  Glu Val Thr Asp Phe  Ala Lys Thr
    1565                1570                1575

Cys Val  Ala Asp Glu Ser Ala  Ala Asn Cys Asp Lys  Ser Leu His
    1580                1585                1590

Thr Leu  Phe Gly Asp Lys Leu  Cys Ala Ile Pro Asn  Leu Arg Glu
    1595                1600                1605

Asn Tyr  Gly Glu Leu Ala Asp  Cys Cys Thr Lys Gln  Glu Pro Glu
    1610                1615                1620

Arg Asn  Glu Cys Phe Leu Gln  His Lys Asp Asp Asn  Pro Ser Leu
    1625                1630                1635

Pro Pro  Phe Glu Arg Pro Glu  Ala Glu Ala Met Cys  Thr Ser Phe
    1640                1645                1650

Lys Glu  Asn Pro Thr Thr Phe  Met Gly His Tyr Leu  His Glu Val
    1655                1660                1665

Ala Arg  Arg His Pro Tyr Phe  Tyr Ala Pro Glu Leu  Leu Tyr Tyr
    1670                1675                1680

Ala Glu  Gln Tyr Asn Glu Ile  Leu Thr Gln Cys Cys  Ala Glu Ala
    1685                1690                1695
```

```
Asp Lys  Glu Ser Cys Leu Thr  Pro Lys Leu Asp Gly  Val Lys Glu
    1700                1705                1710

Lys Ala  Leu Val Ser Ser Val  Arg Gln Arg Met Lys  Cys Ser Ser
    1715                1720                1725

Met Gln  Lys Phe Gly Glu Arg  Ala Phe Lys Ala Trp  Ala Val Ala
    1730                1735                1740

Arg Leu  Ser Gln Thr Phe Pro  Asn Ala Asp Phe Ala  Glu Ile Thr
    1745                1750                1755

Lys Leu  Ala Thr Asp Leu Thr  Lys Val Asn Lys Glu  Cys Cys His
    1760                1765                1770

Gly Asp  Leu Leu Glu Cys Ala  Asp Asp Arg Ala Glu  Leu Ala Lys
    1775                1780                1785

Tyr Met  Cys Glu Asn Gln Ala  Thr Ile Ser Ser Lys  Leu Gln Thr
    1790                1795                1800

Cys Cys  Asp Lys Pro Leu Leu  Lys Lys Ala His Cys  Leu Ser Glu
    1805                1810                1815

Val Glu  His Asp Thr Met Pro  Ala Asp Leu Pro Ala  Ile Ala Ala
    1820                1825                1830

Asp Phe  Val Glu Asp Gln Glu  Val Cys Lys Asn Tyr  Ala Glu Ala
    1835                1840                1845

Lys Asp  Val Phe Leu Gly Thr  Phe Leu Tyr Glu Tyr  Ser Arg Arg
    1850                1855                1860

His Pro  Asp Tyr Ser Val Ser  Leu Leu Leu Arg Leu  Ala Lys Lys
    1865                1870                1875

Tyr Glu  Ala Thr Leu Glu Lys  Cys Cys Ala Glu Ala  Asn Pro Pro
    1880                1885                1890

Ala Cys  Tyr Gly Thr Val Leu  Ala Glu Phe Gln Pro  Leu Val Glu
```

```
    1895                1900                1905

Glu Pro  Lys Asn Leu Val Lys  Thr Asn Cys Asp Leu  Tyr Glu Lys
    1910                1915                1920

Leu Gly  Glu Tyr Gly Phe Gln  Asn Ala Ile Leu Val  Arg Tyr Thr
    1925                1930                1935

Gln Lys  Ala Pro Gln Val Ser  Thr Pro Thr Leu Val  Glu Ala Ala
    1940                1945                1950

Arg Asn  Leu Gly Arg Val Gly  Thr Lys Cys Cys Thr  Leu Pro Glu
    1955                1960                1965

Asp Gln  Arg Leu Pro Cys Val  Glu Asp Tyr Leu Ser  Ala Ile Leu
    1970                1975                1980

Asn Arg  Val Cys Leu Leu His  Glu Lys Thr Pro Val  Ser Glu His
    1985                1990                1995

Val Thr  Lys Cys Cys Ser Gly  Ser Leu Val Glu Arg  Arg Pro Cys
    2000                2005                2010

Phe Ser  Ala Leu Thr Val Asp  Glu Thr Tyr Val Pro  Lys Glu Phe
    2015                2020                2025

Lys Ala  Glu Thr Phe Thr Phe  His Ser Asp Ile Cys  Thr Leu Pro
    2030                2035                2040

Glu Lys  Glu Lys Gln Ile Lys  Lys Gln Thr Ala Leu  Ala Glu Leu
    2045                2050                2055

Val Lys  His Lys Pro Lys Ala  Thr Ala Glu Gln Leu  Lys Thr Val
    2060                2065                2070

Met Asp  Asp Phe Ala Gln Phe  Leu Asp Thr Cys Cys  Lys Ala Ala
    2075                2080                2085

Asp Lys  Asp Thr Cys Phe Ser  Thr Glu Gly Pro Asn  Leu Val Thr
    2090                2095                2100
```

```
Arg Cys  Lys Asp Ala Leu Ala  His His His His His  His Glu Pro
    2105                2110                2115


Glu Ala
    2120


<210> 109
<211> 2130
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

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Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Glu Ala His Lys Ser Glu Ile Ala His Arg
            20                  25                  30


Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
        35                  40                  45


Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
    50                  55                  60


Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
65                  70                  75                  80


Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
                85                  90                  95


Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
            100                 105                 110


Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
        115                 120                 125


Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
    130                 135                 140
```

```
Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
145                 150                 155                 160

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
                165                 170                 175

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
            180                 185                 190

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
        195                 200                 205

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
    210                 215                 220

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
225                 230                 235                 240

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
                245                 250                 255

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
            260                 265                 270

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
        275                 280                 285

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
    290                 295                 300

Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
305                 310                 315                 320

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
                325                 330                 335

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
            340                 345                 350
```

```
Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
        355                 360                 365

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
    370                 375                 380

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
385                 390                 395                 400

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575
```

```
Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
        595                 600                 605

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr
    610                 615                 620

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
625                 630                 635                 640

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
                645                 650                 655

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
            660                 665                 670

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
        675                 680                 685

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
    690                 695                 700

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
705                 710                 715                 720

Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
                725                 730                 735

Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
            740                 745                 750

Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        755                 760                 765

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Ala His Lys Ser
    770                 775                 780
```

```
Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly
785                 790                 795                 800

Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp
                805                 810                 815

Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys
            820                 825                 830

Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu
        835                 840                 845

Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly
    850                 855                 860

Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys
865                 870                 875                 880

Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg
                885                 890                 895

Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr
            900                 905                 910

Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe
        915                 920                 925

Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu
    930                 935                 940

Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys
945                 950                 955                 960

Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg
                965                 970                 975

Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala
            980                 985                 990

Trp Ala Val Ala Arg Leu Ser Gln  Thr Phe Pro Asn Ala  Asp Phe Ala
        995                 1000                1005
```

```
Glu Ile  Thr Lys Leu Ala Thr  Asp Leu Thr Lys Val  Asn Lys Glu
    1010                1015                1020

Cys Cys  His Gly Asp Leu Leu  Glu Cys Ala Asp Asp  Arg Ala Glu
    1025                1030                1035

Leu Ala  Lys Tyr Met Cys Glu  Asn Gln Ala Thr Ile  Ser Ser Lys
    1040                1045                1050

Leu Gln  Thr Cys Cys Asp Lys  Pro Leu Leu Lys Lys  Ala His Cys
    1055                1060                1065

Leu Ser  Glu Val Glu His Asp  Thr Met Pro Ala Asp  Leu Pro Ala
    1070                1075                1080

Ile Ala  Ala Asp Phe Val Glu  Asp Gln Glu Val Cys  Lys Asn Tyr
    1085                1090                1095

Ala Glu  Ala Lys Asp Val Phe  Leu Gly Thr Phe Leu  Tyr Glu Tyr
    1100                1105                1110

Ser Arg  Arg His Pro Asp Tyr  Ser Val Ser Leu Leu  Leu Arg Leu
    1115                1120                1125

Ala Lys  Lys Tyr Glu Ala Thr  Leu Glu Lys Cys Cys  Ala Glu Ala
    1130                1135                1140

Asn Pro  Pro Ala Cys Tyr Gly  Thr Val Leu Ala Glu  Phe Gln Pro
    1145                1150                1155

Leu Val  Glu Glu Pro Lys Asn  Leu Val Lys Thr Asn  Cys Asp Leu
    1160                1165                1170

Tyr Glu  Lys Leu Gly Glu Tyr  Gly Phe Gln Asn Ala  Ile Leu Val
    1175                1180                1185

Arg Tyr  Thr Gln Lys Ala Pro  Gln Val Ser Thr Pro  Thr Leu Val
    1190                1195                1200
```

```
Glu Ala  Ala Arg Asn Leu Gly  Arg Val Gly Thr Lys  Cys Cys Thr
    1205                 1210                 1215

Leu Pro  Glu Asp Gln Arg Leu  Pro Cys Val Glu Asp  Tyr Leu Ser
    1220                 1225                 1230

Ala Ile  Leu Asn Arg Val Cys  Leu Leu His Glu Lys  Thr Pro Val
    1235                 1240                 1245

Ser Glu  His Val Thr Lys Cys  Cys Ser Gly Ser Leu  Val Glu Arg
    1250                 1255                 1260

Arg Pro  Cys Phe Ser Ala Leu  Thr Val Asp Glu Thr  Tyr Val Pro
    1265                 1270                 1275

Lys Glu  Phe Lys Ala Glu Thr  Phe Thr Phe His Ser  Asp Ile Cys
    1280                 1285                 1290

Thr Leu  Pro Glu Lys Glu Lys  Gln Ile Lys Lys Gln  Thr Ala Leu
    1295                 1300                 1305

Ala Glu  Leu Val Lys His Lys  Pro Lys Ala Thr Ala  Glu Gln Leu
    1310                 1315                 1320

Lys Thr  Val Met Asp Asp Phe  Ala Gln Phe Leu Asp  Thr Cys Cys
    1325                 1330                 1335

Lys Ala  Ala Asp Lys Asp Thr  Cys Phe Ser Thr Glu  Gly Pro Asn
    1340                 1345                 1350

Leu Val  Thr Arg Cys Lys Asp  Ala Leu Ala Gly Gly  Gly Gly Ser
    1355                 1360                 1365

Gly Gly  Gly Gly Ser Ser Gly  Gly Pro Gly Pro Ala  Gly Met Lys
    1370                 1375                 1380

Gly Leu  Pro Gly Ser His Gly  Thr Val Ile Glu Ser  Leu Glu Ser
    1385                 1390                 1395

Leu Asn  Asn Tyr Phe Asn Ser  Ser Gly Ile Asp Val  Glu Glu Lys
    1400                 1405                 1410
```

```
Ser Leu  Phe Leu Asp Ile Trp  Arg Asn Trp Gln Lys  Asp Gly Asp
    1415                1420                1425

Met Lys  Ile Leu Gln Ser Gln  Ile Ile Ser Phe Tyr  Leu Arg Leu
    1430                1435                1440

Phe Glu  Val Leu Lys Asp Asn  Gln Ala Ile Ser Asn  Asn Ile Ser
    1445                1450                1455

Val Ile  Glu Ser His Leu Ile  Thr Thr Phe Phe Ser  Asn Ser Lys
    1460                1465                1470

Ala Lys  Lys Asp Ala Phe Met  Ser Ile Ala Lys Phe  Glu Val Asn
    1475                1480                1485

Asn Pro  Gln Val Gln Arg Gln  Ala Phe Asn Glu Leu  Ile Arg Val
    1490                1495                1500

Val His  Gln Leu Leu Pro Glu  Ser Ser Leu Arg Lys  Arg Lys Arg
    1505                1510                1515

Ser Arg  Cys Ser Gly Gly Pro  Gly Pro Ala Gly Met  Lys Gly Leu
    1520                1525                1530

Pro Gly  Ser Glu Ala His Lys  Ser Glu Ile Ala His  Arg Tyr Asn
    1535                1540                1545

Asp Leu  Gly Glu Gln His Phe  Lys Gly Leu Val Leu  Ile Ala Phe
    1550                1555                1560

Ser Gln  Tyr Leu Gln Lys Cys  Ser Tyr Asp Glu His  Ala Lys Leu
    1565                1570                1575

Val Gln  Glu Val Thr Asp Phe  Ala Lys Thr Cys Val  Ala Asp Glu
    1580                1585                1590

Ser Ala  Ala Asn Cys Asp Lys  Ser Leu His Thr Leu  Phe Gly Asp
    1595                1600                1605
```

```
Lys Leu  Cys Ala Ile Pro Asn  Leu Arg Glu Asn Tyr  Gly Glu Leu
    1610                1615                1620

Ala Asp  Cys Cys Thr Lys Gln  Glu Pro Glu Arg Asn  Glu Cys Phe
    1625                1630                1635

Leu Gln  His Lys Asp Asp Asn  Pro Ser Leu Pro Pro  Phe Glu Arg
    1640                1645                1650

Pro Glu  Ala Glu Ala Met Cys  Thr Ser Phe Lys Glu  Asn Pro Thr
    1655                1660                1665

Thr Phe  Met Gly His Tyr Leu  His Glu Val Ala Arg  Arg His Pro
    1670                1675                1680

Tyr Phe  Tyr Ala Pro Glu Leu  Leu Tyr Tyr Ala Glu  Gln Tyr Asn
    1685                1690                1695

Glu Ile  Leu Thr Gln Cys Cys  Ala Glu Ala Asp Lys  Glu Ser Cys
    1700                1705                1710

Leu Thr  Pro Lys Leu Asp Gly  Val Lys Glu Lys Ala  Leu Val Ser
    1715                1720                1725

Ser Val  Arg Gln Arg Met Lys  Cys Ser Ser Met Gln  Lys Phe Gly
    1730                1735                1740

Glu Arg  Ala Phe Lys Ala Trp  Ala Val Ala Arg Leu  Ser Gln Thr
    1745                1750                1755

Phe Pro  Asn Ala Asp Phe Ala  Glu Ile Thr Lys Leu  Ala Thr Asp
    1760                1765                1770

Leu Thr  Lys Val Asn Lys Glu  Cys Cys His Gly Asp  Leu Leu Glu
    1775                1780                1785

Cys Ala  Asp Asp Arg Ala Glu  Leu Ala Lys Tyr Met  Cys Glu Asn
    1790                1795                1800

Gln Ala  Thr Ile Ser Ser Lys  Leu Gln Thr Cys Cys  Asp Lys Pro
    1805                1810                1815
```

```
Leu Leu  Lys Lys Ala His Cys  Leu Ser Glu Val Glu  His Asp Thr
    1820                1825                1830

Met Pro  Ala Asp Leu Pro Ala  Ile Ala Ala Asp Phe  Val Glu Asp
    1835                1840                1845

Gln Glu  Val Cys Lys Asn Tyr  Ala Glu Ala Lys Asp  Val Phe Leu
    1850                1855                1860

Gly Thr  Phe Leu Tyr Glu Tyr  Ser Arg Arg His Pro  Asp Tyr Ser
    1865                1870                1875

Val Ser  Leu Leu Leu Arg Leu  Ala Lys Lys Tyr Glu  Ala Thr Leu
    1880                1885                1890

Glu Lys  Cys Cys Ala Glu Ala  Asn Pro Pro Ala Cys  Tyr Gly Thr
    1895                1900                1905

Val Leu  Ala Glu Phe Gln Pro  Leu Val Glu Glu Pro  Lys Asn Leu
    1910                1915                1920

Val Lys  Thr Asn Cys Asp Leu  Tyr Glu Lys Leu Gly  Glu Tyr Gly
    1925                1930                1935

Phe Gln  Asn Ala Ile Leu Val  Arg Tyr Thr Gln Lys  Ala Pro Gln
    1940                1945                1950

Val Ser  Thr Pro Thr Leu Val  Glu Ala Ala Arg Asn  Leu Gly Arg
    1955                1960                1965

Val Gly  Thr Lys Cys Cys Thr  Leu Pro Glu Asp Gln  Arg Leu Pro
    1970                1975                1980

Cys Val  Glu Asp Tyr Leu Ser  Ala Ile Leu Asn Arg  Val Cys Leu
    1985                1990                1995

Leu His  Glu Lys Thr Pro Val  Ser Glu His Val Thr  Lys Cys Cys
    2000                2005                2010
```

```
Ser Gly  Ser Leu Val Glu Arg  Arg Pro Cys Phe Ser  Ala Leu Thr
    2015                 2020                 2025


Val Asp  Glu Thr Tyr Val Pro  Lys Glu Phe Lys Ala  Glu Thr Phe
    2030                 2035                 2040


Thr Phe  His Ser Asp Ile Cys  Thr Leu Pro Glu Lys  Glu Lys Gln
    2045                 2050                 2055


Ile Lys  Lys Gln Thr Ala Leu  Ala Glu Leu Val Lys  His Lys Pro
    2060                 2065                 2070


Lys Ala  Thr Ala Glu Gln Leu  Lys Thr Val Met Asp  Asp Phe Ala
    2075                 2080                 2085


Gln Phe  Leu Asp Thr Cys Cys  Lys Ala Ala Asp Lys  Asp Thr Cys
    2090                 2095                 2100


Phe Ser  Thr Glu Gly Pro Asn  Leu Val Thr Arg Cys  Lys Asp Ala
    2105                 2110                 2115


Leu Ala  His His His His His  His Glu Pro Glu Ala
    2120                 2125                 2130


<210> 110
<211> 703
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 110
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                  10                  15


Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45
```

```
Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    130                 135                 140

Gly Gly Ser Gly Gly Gly Gly Ser His Gly Thr Val Ile Glu Ser Leu
145                 150                 155                 160

Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
                165                 170                 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
            180                 185                 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
        195                 200                 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
```

```
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Gly Gly Gly
        275                 280                 285

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
    290                 295                 300

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
305                 310                 315                 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                325                 330                 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            340                 345                 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        355                 360                 365

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    370                 375                 380

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385                 390                 395                 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
                405                 410                 415

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser His Gly
            420                 425                 430

Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser
        435                 440                 445

Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn
    450                 455                 460

Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser
465                 470                 475                 480
```

```
Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser
                485                 490                 495

Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser
            500                 505                 510

Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu
        515                 520                 525

Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg
    530                 535                 540

Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg
545                 550                 555                 560

Ser Arg Cys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                565                 570                 575

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            580                 585                 590

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        595                 600                 605

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    610                 615                 620

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
625                 630                 635                 640

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
                645                 650                 655

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
            660                 665                 670

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
        675                 680                 685

Val Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
```

690 695 700

<210> 111
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 111
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser Leu
145 150 155 160

```
Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu
                165                 170                 175

Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp
            180                 185                 190

Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe
        195                 200                 205

Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile
    210                 215                 220

Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys
225                 230                 235                 240

Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val
                245                 250                 255

Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu Leu
            260                 265                 270

Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
    290                 295                 300

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
305                 310                 315                 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                325                 330                 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            340                 345                 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        355                 360                 365

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    370                 375                 380
```

```
Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385                 390                 395                 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
                405                 410                 415

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly
            420                 425                 430

Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser
        435                 440                 445

Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn
    450                 455                 460

Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser
465                 470                 475                 480

Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser
                485                 490                 495

Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser
            500                 505                 510

Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu
        515                 520                 525

Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg
    530                 535                 540

Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg
545                 550                 555                 560

Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
                565                 570                 575

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            580                 585                 590
```

```
Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        595                 600                 605

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    610                 615                 620

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
625                 630                 635                 640

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
                645                 650                 655

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
            660                 665                 670

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
        675                 680                 685

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    690                 695                 700

Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala
705                 710                 715                 720

Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr
                725                 730                 735

Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln
            740                 745                 750

Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn Tyr Ala
        755                 760                 765

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    770                 775                 780

Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val
785                 790                 795                 800

Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr
                805                 810                 815
```

```
Gln Val Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
            820                 825                 830


<210> 112
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 112
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
    50                  55                  60


Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65                  70                  75                  80


Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95


Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110


Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125


Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140


Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
```

```
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile Glu Ser
        275                 280                 285

Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu
    290                 295                 300

Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly
305                 310                 315                 320

Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu
                325                 330                 335

Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile Ser Val
            340                 345                 350

Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys
        355                 360                 365
```

```
Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn Pro Gln
    370                 375                 380

Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His Gln Leu
385                 390                 395                 400

Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys Ser Gly
                405                 410                 415

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln
            420                 425                 430

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
        435                 440                 445

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
    450                 455                 460

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
465                 470                 475                 480

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
                485                 490                 495

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
            500                 505                 510

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
        515                 520                 525

Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535                 540

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His
545                 550                 555                 560

Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser
                565                 570                 575

Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg
```

```
            580                 585                 590

Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile
        595                 600                 605

Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile
    610                 615                 620

Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe
625                 630                 635                 640

Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe
                645                 650                 655

Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile
            660                 665                 670

Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys
        675                 680                 685

Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
    690                 695                 700

Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
705                 710                 715                 720

Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
                725                 730                 735

Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
            740                 745                 750

Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala
        755                 760                 765

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr
    770                 775                 780

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val
785                 790                 795                 800
```

```
Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr
                805                 810                 815


Leu Val Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
            820                 825                 830


<210> 113
<211> 549
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 113
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Arg Val Ile Pro Val Ser Gly Pro Ala Arg
            20                  25                  30


Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val
        35                  40                  45


Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp
    50                  55                  60


Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr
65                  70                  75                  80


Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg
                85                  90                  95


Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr
            100                 105                 110


Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys
        115                 120                 125


Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His
    130                 135                 140
```

```
Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp
145                 150                 155                 160

Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys
                165                 170                 175

Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys
            180                 185                 190

Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val
        195                 200                 205

Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met
    210                 215                 220

Lys Gly Leu Pro Gly Ser Met Trp Glu Leu Glu Lys Asp Val Tyr Val
225                 230                 235                 240

Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr Val Asn Leu
                245                 250                 255

Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln
            260                 265                 270

Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr Val Lys
        275                 280                 285

Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Thr
    290                 295                 300

Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly Ile Trp
305                 310                 315                 320

Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys
                325                 330                 335

Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu Val Gln
            340                 345                 350
```

```
Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro
        355                 360                 365

Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala Glu Lys
    370                 375                 380

Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln
385                 390                 395                 400

Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu
                405                 410                 415

Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser Thr Ser
            420                 425                 430

Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln
        435                 440                 445

Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu Tyr Pro
    450                 455                 460

Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe Phe Val
465                 470                 475                 480

Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu Gly Cys
                485                 490                 495

Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu Val Gln
            500                 505                 510

Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn
        515                 520                 525

Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg Ser His
    530                 535                 540

His His His His His
545
```

<210> 114
<211> 579

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 114
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Arg Val Ile Pro Val Ser Gly Pro Ala Arg
20 25 30

Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val
35 40 45

Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp
50 55 60

Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr
65 70 75 80

Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg
85 90 95

Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr
100 105 110

Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys
115 120 125

Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His
130 135 140

Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp
145 150 155 160

Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys
165 170 175

Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys

```
            180                 185                 190

Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val
        195                 200                 205

Met Gly Tyr Leu Ser Ser Ala Gly Gly Gly Gly Ser Gly Gly Gly Gly
    210                 215                 220

Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
225                 230                 235                 240

Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                245                 250                 255

Gly Gly Gly Ser Met Trp Glu Leu Glu Lys Asp Val Tyr Val Val Glu
            260                 265                 270

Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr Val Asn Leu Thr Cys
        275                 280                 285

Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln Arg His
    290                 295                 300

Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr Val Lys Glu Phe
305                 310                 315                 320

Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Thr Leu Ser
                325                 330                 335

His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly Ile Trp Ser Thr
            340                 345                 350

Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys Glu Ala
        355                 360                 365

Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu Val Gln Arg Asn
    370                 375                 380

Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro Asp Ser
385                 390                 395                 400
```

```
Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala Glu Lys Val Thr
                405                 410                 415

Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln Glu Asp
            420                 425                 430

Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu Ala Leu
        435                 440                 445

Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser Thr Ser Phe Phe
    450                 455                 460

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Met Lys
465                 470                 475                 480

Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Ser
                485                 490                 495

Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe Phe Val Arg Ile
            500                 505                 510

Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu Gly Cys Asn Gln
        515                 520                 525

Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu Val Gln Cys Lys
    530                 535                 540

Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn Ser Ser
545                 550                 555                 560

Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg Ser His His His
                565                 570                 575

His His His
```

<210> 115
<211> 809
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 115
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser Met Trp Glu Leu Glu Lys Asp Val
145 150 155 160

Tyr Val Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr Val
165 170 175

Asn Leu Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser
180 185 190

```
Asp Gln Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr
        195                 200                 205

Val Lys Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
    210                 215                 220

Glu Thr Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly
225                 230                 235                 240

Ile Trp Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu
                245                 250                 255

Lys Cys Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu
            260                 265                 270

Val Gln Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser
        275                 280                 285

Ser Pro Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala
    290                 295                 300

Glu Lys Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser
305                 310                 315                 320

Cys Gln Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile
                325                 330                 335

Glu Leu Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser
            340                 345                 350

Thr Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
        355                 360                 365

Leu Gln Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu
    370                 375                 380

Tyr Pro Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe
385                 390                 395                 400

Phe Val Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu
                405                 410                 415
```

```
Gly Cys Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu
            420                 425                 430

Val Gln Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr
        435                 440                 445

Tyr Asn Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg
    450                 455                 460

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
465                 470                 475                 480

Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
                485                 490                 495

Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            500                 505                 510

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        515                 520                 525

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    530                 535                 540

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
545                 550                 555                 560

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                565                 570                 575

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            580                 585                 590

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
        595                 600                 605

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    610                 615                 620
```

```
Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
625                 630                 635                 640

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                645                 650                 655

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            660                 665                 670

Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        675                 680                 685

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    690                 695                 700

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
705                 710                 715                 720

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                725                 730                 735

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            740                 745                 750

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        755                 760                 765

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    770                 775                 780

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
785                 790                 795                 800

Val Ser Ser His His His His His His
                805
```

<210> 116
<211> 938
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 116
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
50 55 60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65 70 75 80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
100 105 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
115 120 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
130 135 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145 150 155 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
165 170 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
180 185 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp

```
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser Met Trp Glu Leu Glu Lys Asp
        275                 280                 285

Val Tyr Val Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr
    290                 295                 300

Val Asn Leu Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr
305                 310                 315                 320

Ser Asp Gln Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile
                325                 330                 335

Thr Val Lys Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly
            340                 345                 350

Gly Glu Thr Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn
        355                 360                 365

Gly Ile Trp Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe
    370                 375                 380

Leu Lys Cys Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp
385                 390                 395                 400

Leu Val Gln Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser
                405                 410                 415
```

```
Ser Ser Pro Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser
            420                 425                 430

Ala Glu Lys Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val
        435                 440                 445

Ser Cys Gln Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro
    450                 455                 460

Ile Glu Leu Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr
465                 470                 475                 480

Ser Thr Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys
                485                 490                 495

Asn Leu Gln Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp
            500                 505                 510

Glu Tyr Pro Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys
        515                 520                 525

Phe Phe Val Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu
    530                 535                 540

Glu Gly Cys Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr
545                 550                 555                 560

Glu Val Gln Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg
                565                 570                 575

Tyr Tyr Asn Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val
            580                 585                 590

Arg Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        595                 600                 605

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
    610                 615                 620

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
```

625 630 635 640

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
645 650 655

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
660 665 670

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
675 680 685

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
690 695 700

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
705 710 715 720

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
725 730 735

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
740 745 750

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
755 760 765

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
770 775 780

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
785 790 795 800

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
805 810 815

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
820 825 830

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
835 840 845

```
Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
    850                 855                 860

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
865                 870                 875                 880

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
                885                 890                 895

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
            900                 905                 910

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
        915                 920                 925

Thr Val Ser Ser His His His His His His
    930                 935
```

<210> 117
<211> 938
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 117

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80
```

```
Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser Met Trp Glu Leu Glu Lys Asp
        275                 280                 285
```

```
Val Tyr Val Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr
    290                 295                 300

Val Asn Leu Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr
305                 310                 315                 320

Ser Asp Gln Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile
                325                 330                 335

Thr Val Lys Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly
            340                 345                 350

Gly Glu Thr Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn
        355                 360                 365

Gly Ile Trp Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe
    370                 375                 380

Leu Lys Cys Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp
385                 390                 395                 400

Leu Val Gln Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser
                405                 410                 415

Ser Ser Pro Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser
            420                 425                 430

Ala Glu Lys Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val
        435                 440                 445

Ser Cys Gln Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro
    450                 455                 460

Ile Glu Leu Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr
465                 470                 475                 480

Ser Thr Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys
                485                 490                 495

Asn Leu Gln Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp
            500                 505                 510
```

```
Glu Tyr Pro Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys
        515                 520                 525

Phe Phe Val Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu
    530                 535                 540

Glu Gly Cys Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr
545                 550                 555                 560

Glu Val Gln Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg
                565                 570                 575

Tyr Tyr Asn Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val
            580                 585                 590

Arg Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        595                 600                 605

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
    610                 615                 620

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
625                 630                 635                 640

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
                645                 650                 655

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
            660                 665                 670

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
        675                 680                 685

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
    690                 695                 700

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
705                 710                 715                 720
```

```
Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
                725                 730                 735

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
            740                 745                 750

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
        755                 760                 765

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
    770                 775                 780

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
785                 790                 795                 800

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
                805                 810                 815

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            820                 825                 830

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
        835                 840                 845

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
    850                 855                 860

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
865                 870                 875                 880

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
                885                 890                 895

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
            900                 905                 910

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
        915                 920                 925

Thr Val Ser Ser His His His His His His
    930                 935
```

<210> 118
<211> 938
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 118
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser Met Trp Glu Leu Glu Lys Asp Val
145 150 155 160

Tyr Val Val Glu Val Asp Trp Thr Pro Asp Ala Pro Gly Glu Thr Val

```
                165                 170                 175

Asn Leu Thr Cys Asp Thr Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser
            180                 185                 190

Asp Gln Arg His Gly Val Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr
        195                 200                 205

Val Lys Glu Phe Leu Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
    210                 215                 220

Glu Thr Leu Ser His Ser His Leu Leu Leu His Lys Lys Glu Asn Gly
225                 230                 235                 240

Ile Trp Ser Thr Glu Ile Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu
                245                 250                 255

Lys Cys Glu Ala Pro Asn Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu
            260                 265                 270

Val Gln Arg Asn Met Asp Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser
        275                 280                 285

Ser Pro Asp Ser Arg Ala Val Thr Cys Gly Met Ala Ser Leu Ser Ala
    290                 295                 300

Glu Lys Val Thr Leu Asp Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser
305                 310                 315                 320

Cys Gln Glu Asp Val Thr Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile
                325                 330                 335

Glu Leu Ala Leu Glu Ala Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser
            340                 345                 350

Thr Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
        355                 360                 365

Leu Gln Met Lys Pro Leu Lys Asn Ser Gln Val Glu Val Ser Trp Glu
    370                 375                 380
```

```
Tyr Pro Asp Ser Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Lys Phe
385                 390                 395                 400

Phe Val Arg Ile Gln Arg Lys Lys Glu Lys Met Lys Glu Thr Glu Glu
                405                 410                 415

Gly Cys Asn Gln Lys Gly Ala Phe Leu Val Glu Lys Thr Ser Thr Glu
            420                 425                 430

Val Gln Cys Lys Gly Gly Asn Val Cys Val Gln Ala Gln Asp Arg Tyr
        435                 440                 445

Tyr Asn Ser Ser Cys Ser Lys Trp Ala Cys Val Pro Cys Arg Val Arg
    450                 455                 460

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
465                 470                 475                 480

Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
                485                 490                 495

Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            500                 505                 510

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        515                 520                 525

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    530                 535                 540

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
545                 550                 555                 560

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                565                 570                 575

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            580                 585                 590

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
```

```
        595                 600                 605

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    610                 615                 620

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
625                 630                 635                 640

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                645                 650                 655

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            660                 665                 670

Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        675                 680                 685

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    690                 695                 700

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
705                 710                 715                 720

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                725                 730                 735

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            740                 745                 750

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        755                 760                 765

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    770                 775                 780

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
785                 790                 795                 800

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                805                 810                 815
```

```
Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala
            820                 825                 830

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Ile Phe Ser
        835                 840                 845

Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu
    850                 855                 860

Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser Tyr Asp Asp Ser
865                 870                 875                 880

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val
                885                 890                 895

Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Gly Val Tyr Tyr
            900                 905                 910

Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys Gly Thr Gln Val
        915                 920                 925

Thr Val Ser Ser His His His His His His
    930                 935
```

<210> 119
<211> 962
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 119

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
            20                  25                  30

Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
        35                  40                  45
```

```
Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
    50                  55                  60

Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65                  70                  75                  80

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
                85                  90                  95

Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
            100                 105                 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
        115                 120                 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
    130                 135                 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145                 150                 155                 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
                165                 170                 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
            180                 185                 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
        195                 200                 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
    210                 215                 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225                 230                 235                 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
                245                 250                 255
```

```
Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
            260                 265                 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
        275                 280                 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
    290                 295                 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305                 310                 315                 320

Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala
            340                 345                 350

Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met
        355                 360                 365

Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu
    370                 375                 380

Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys
385                 390                 395                 400

Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr
                405                 410                 415

Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys
            420                 425                 430

Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu
        435                 440                 445

Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn
    450                 455                 460

His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile
465                 470                 475                 480
```

```
Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln
                485                 490                 495

Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu
            500                 505                 510

Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg
        515                 520                 525

Val Met Gly Tyr Leu Ser Ser Ala Gly Gly Gly Gly Ser Gly Gly Gly
    530                 535                 540

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
545                 550                 555                 560

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
            580                 585                 590

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
        595                 600                 605

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
    610                 615                 620

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
625                 630                 635                 640

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
                645                 650                 655

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
            660                 665                 670

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
        675                 680                 685
```

```
Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    690                 695                 700

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
705                 710                 715                 720

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
                725                 730                 735

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
            740                 745                 750

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
        755                 760                 765

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
    770                 775                 780

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
785                 790                 795                 800

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
                805                 810                 815

Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            820                 825                 830

Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        835                 840                 845

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    850                 855                 860

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
865                 870                 875                 880

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                885                 890                 895

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            900                 905                 910
```

```
Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        915                 920                 925


Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    930                 935                 940


Gly Thr Leu Val Thr Val Ser Ser His His His His His His Glu Pro
945                 950                 955                 960


Glu Ala



<210> 120
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 120
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
            20                  25                  30


Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
        35                  40                  45


Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
    50                  55                  60


Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65                  70                  75                  80


Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
                85                  90                  95


Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
```

```
            100                 105                 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
        115                 120                 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
    130                 135                 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145                 150                 155                 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
                165                 170                 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
            180                 185                 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
        195                 200                 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
    210                 215                 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225                 230                 235                 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
                245                 250                 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
            260                 265                 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
        275                 280                 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
    290                 295                 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305                 310                 315                 320
```

```
Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala
            340                 345                 350

Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met
        355                 360                 365

Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu
    370                 375                 380

Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys
385                 390                 395                 400

Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr
                405                 410                 415

Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys
            420                 425                 430

Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu
        435                 440                 445

Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn
    450                 455                 460

His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile
465                 470                 475                 480

Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln
                485                 490                 495

Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu
            500                 505                 510

Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg
        515                 520                 525

Val Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly
```

```
    530                 535                 540

Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
545                 550                 555                 560

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
            580                 585                 590

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
        595                 600                 605

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
    610                 615                 620

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
625                 630                 635                 640

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
                645                 650                 655

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
            660                 665                 670

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
        675                 680                 685

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    690                 695                 700

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
705                 710                 715                 720

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
                725                 730                 735

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
            740                 745                 750
```

```
Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
        755                 760                 765


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
    770                 775                 780


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
785                 790                 795                 800


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
                805                 810                 815


Met Val Thr Val Ser Ser His His His His His His Glu Pro Glu Ala
            820                 825                 830


<210> 121
<211> 1091
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 121
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
            20                  25                  30


Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
        35                  40                  45


Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
    50                  55                  60


Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys
65                  70                  75                  80


Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
                85                  90                  95
```

```
Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
            100                 105                 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
        115                 120                 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp
    130                 135                 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145                 150                 155                 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
                165                 170                 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
            180                 185                 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
        195                 200                 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
    210                 215                 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225                 230                 235                 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
                245                 250                 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
            260                 265                 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
        275                 280                 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
    290                 295                 300
```

```
Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305                 310                 315                 320

Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala
            340                 345                 350

Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met
        355                 360                 365

Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu
    370                 375                 380

Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys
385                 390                 395                 400

Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr
                405                 410                 415

Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys
            420                 425                 430

Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu
        435                 440                 445

Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn
    450                 455                 460

His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile
465                 470                 475                 480

Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln
                485                 490                 495

Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu
            500                 505                 510

Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg
        515                 520                 525
```

```
Val Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly
    530                 535                 540

Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
545                 550                 555                 560

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
            580                 585                 590

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
        595                 600                 605

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
    610                 615                 620

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
625                 630                 635                 640

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
                645                 650                 655

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
            660                 665                 670

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
        675                 680                 685

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    690                 695                 700

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
705                 710                 715                 720

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
                725                 730                 735
```

```
Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
            740                 745                 750

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
        755                 760                 765

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
    770                 775                 780

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
785                 790                 795                 800

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
                805                 810                 815

Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            820                 825                 830

Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        835                 840                 845

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    850                 855                 860

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
865                 870                 875                 880

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
                885                 890                 895

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            900                 905                 910

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        915                 920                 925

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    930                 935                 940

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
945                 950                 955                 960
```

```
Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly Gly
                965                 970                 975


Gly Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser
            980                 985                 990


Gly Phe Thr Val Ser Asn Ser Val  Met Ala Trp Tyr Arg  Gln Thr Pro
        995                 1000                1005


Gly Lys  Gln Arg Glu Phe Val  Ala Ile Ile Asn Ser  Val Gly Ser
    1010                1015                1020


Thr Asn  Tyr Ala Asp Ser Val  Lys Gly Arg Phe Thr  Ile Ser Arg
    1025                1030                1035


Asp Asn  Ala Lys Asn Thr Val  Tyr Leu Gln Met Asn  Asn Leu Lys
    1040                1045                1050


Pro Glu  Asp Thr Ala Val Tyr  Val Cys Asn Arg Asn  Phe Asp Arg
    1055                1060                1065


Ile Tyr  Trp Gly Gln Gly Thr  Gln Val Thr Val Ser  Ser His His
    1070                1075                1080


His His  His His Glu Pro Glu  Ala
    1085                1090


<210> 122
<211> 1091
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 122
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
```

```
            20                  25                  30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
    50                  55                  60

Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65                  70                  75                  80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr
145                 150                 155                 160

Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val
                165                 170                 175

Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp
            180                 185                 190

Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val
        195                 200                 205

Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu
    210                 215                 220

Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile
225                 230                 235                 240
```

```
Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr
                245                 250                 255

Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp
            260                 265                 270

Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser
        275                 280                 285

Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu
    290                 295                 300

Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val
305                 310                 315                 320

Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro
                325                 330                 335

Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr
            340                 345                 350

Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys
        355                 360                 365

Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser
    370                 375                 380

Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu
385                 390                 395                 400

Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp
                405                 410                 415

Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn
            420                 425                 430

Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp
        435                 440                 445

Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly
```

```
    450                 455                 460

Gly Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro
465                 470                 475                 480

Ala Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp
                485                 490                 495

Met Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala
            500                 505                 510

Glu Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu
        515                 520                 525

Lys Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala
    530                 535                 540

Thr Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln
545                 550                 555                 560

Lys Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp
                565                 570                 575

Leu Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln
            580                 585                 590

Asn His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala
        595                 600                 605

Ile Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg
    610                 615                 620

Gln Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys
625                 630                 635                 640

Leu Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn
                645                 650                 655

Arg Val Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala
            660                 665                 670
```

```
Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
        675                 680                 685

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    690                 695                 700

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
705                 710                 715                 720

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
                725                 730                 735

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
            740                 745                 750

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
        755                 760                 765

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
    770                 775                 780

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
785                 790                 795                 800

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
                805                 810                 815

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
            820                 825                 830

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
        835                 840                 845

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
    850                 855                 860

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
865                 870                 875                 880

Leu Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr
```

```
                885                 890                 895

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
            900                 905                 910

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
        915                 920                 925

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
    930                 935                 940

Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
945                 950                 955                 960

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
                965                 970                 975

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
            980                 985                 990

Phe Thr Phe Ser Lys Phe Gly Met  Ser Trp Val Arg Gln  Ala Pro Gly
        995                 1000                1005

Lys Gly  Leu Glu Trp Val Ser  Ser Ile Ser Gly Ser  Gly Arg Asp
    1010                1015                1020

Thr Leu  Tyr Ala Glu Ser Val  Lys Gly Arg Phe Thr  Ile Ser Arg
    1025                1030                1035

Asp Asn  Ala Lys Thr Thr Leu  Tyr Leu Gln Met Asn  Ser Leu Arg
    1040                1045                1050

Pro Glu  Asp Thr Ala Val Tyr  Tyr Cys Thr Ile Gly  Gly Ser Leu
    1055                1060                1065

Ser Val  Ser Ser Gln Gly Thr  Leu Val Thr Val Ser  Ser His His
    1070                1075                1080

His His  His His Glu Pro Glu  Ala
    1085                1090
```

<210> 123
<211> 1091
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 123
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
50 55 60

Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65 70 75 80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
100 105 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
115 120 125

Gly Thr Gln Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly
130 135 140

Met Lys Gly Leu Pro Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr
145 150 155 160

Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val
165 170 175

```
Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp
            180                 185                 190

Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val
        195                 200                 205

Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu
    210                 215                 220

Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile
225                 230                 235                 240

Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr
                245                 250                 255

Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp
            260                 265                 270

Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser
        275                 280                 285

Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu
    290                 295                 300

Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val
305                 310                 315                 320

Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro
                325                 330                 335

Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr
            340                 345                 350

Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys
        355                 360                 365

Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser
    370                 375                 380
```

```
Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu
385                 390                 395                 400

Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp
                405                 410                 415

Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn
            420                 425                 430

Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp
        435                 440                 445

Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly
    450                 455                 460

Gly Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro
465                 470                 475                 480

Ala Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp
                485                 490                 495

Met Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala
            500                 505                 510

Glu Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu
        515                 520                 525

Lys Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala
    530                 535                 540

Thr Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln
545                 550                 555                 560

Lys Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp
                565                 570                 575

Leu Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln
            580                 585                 590

Asn His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala
        595                 600                 605
```

```
Ile Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg
    610                 615                 620

Gln Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys
625                 630                 635                 640

Leu Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn
                645                 650                 655

Arg Val Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala
            660                 665                 670

Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
        675                 680                 685

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    690                 695                 700

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
705                 710                 715                 720

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
                725                 730                 735

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
            740                 745                 750

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
        755                 760                 765

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
    770                 775                 780

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
785                 790                 795                 800

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
                805                 810                 815
```

```
Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
            820                 825                 830

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
        835                 840                 845

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
    850                 855                 860

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
865                 870                 875                 880

Leu Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr
                885                 890                 895

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
            900                 905                 910

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
        915                 920                 925

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
    930                 935                 940

Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
945                 950                 955                 960

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
                965                 970                 975

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
            980                 985                 990

Phe Thr Phe Ser Lys Phe Gly Met  Ser Trp Val Arg Gln  Ala Pro Gly
        995                 1000                1005

Lys Gly  Leu Glu Trp Val Ser  Ser Ile Ser Gly Ser  Gly Arg Asp
    1010                1015                1020

Thr Leu  Tyr Ala Glu Ser Val  Lys Gly Arg Phe Thr  Ile Ser Arg
    1025                1030                1035
```

```
Asp Asn  Ala Lys Thr Thr Leu  Tyr Leu Gln Met Asn  Ser Leu Arg
    1040                1045                1050


Pro Glu  Asp Thr Ala Val Tyr  Tyr Cys Thr Ile Gly  Gly Ser Leu
    1055                1060                1065


Ser Val  Ser Ser Gln Gly Thr  Leu Val Thr Val Ser  Ser His His
    1070                1075                1080


His His  His His Glu Pro Glu  Ala
    1085                1090


<210> 124
<211> 674
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 124
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30


Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45


Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
```

```
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    210                 215                 220

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
225                 230                 235                 240

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                245                 250                 255

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            260                 265                 270

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        275                 280                 285

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    290                 295                 300

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
305                 310                 315                 320
```

```
Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                325                 330                 335

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            340                 345                 350

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        355                 360                 365

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
    370                 375                 380

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
385                 390                 395                 400

Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly
            420                 425                 430

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
        435                 440                 445

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
    450                 455                 460

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
465                 470                 475                 480

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
                485                 490                 495

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
            500                 505                 510

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
        515                 520                 525

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
```

```
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu
545                 550                 555                 560

Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys
                565                 570                 575

Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg
            580                 585                 590

Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly
        595                 600                 605

Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
    610                 615                 620

Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys
625                 630                 635                 640

Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp
                645                 650                 655

Tyr Trp Gly Lys Gly Thr Gln Val Thr Val Ser Ser His His His His
            660                 665                 670

His His
```

<210> 125
<211> 674
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 125

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15
```

```
Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly
    130                 135                 140

Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240
```

```
Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser
        275                 280                 285

Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
    290                 295                 300

Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln
305                 310                 315                 320

Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser
                325                 330                 335

Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg
            340                 345                 350

Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala
        355                 360                 365

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala
    370                 375                 380

Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly
385                 390                 395                 400

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
                405                 410                 415

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
            420                 425                 430

Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp
        435                 440                 445
```

```
Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala
    450                 455                 460

Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
465                 470                 475                 480

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
                485                 490                 495

Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly
            500                 505                 510

Gly Gly Thr Lys Val Glu Ile Lys Ser Gly Gly Pro Gly Pro Ala Gly
        515                 520                 525

Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
    530                 535                 540

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
545                 550                 555                 560

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
                565                 570                 575

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
            580                 585                 590

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
        595                 600                 605

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
    610                 615                 620

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
625                 630                 635                 640

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
                645                 650                 655

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr His His His His
            660                 665                 670
```

His His

<210> 126
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 126
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile
20 25 30

Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu
35 40 45

Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu
50 55 60

Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln
65 70 75 80

Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr
85 90 95

Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser
100 105 110

Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu
115 120 125

Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val
130 135 140

Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu

```
145                 150                 155                 160

His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr
                165                 170                 175

Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser
            180                 185                 190

Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro
        195                 200                 205

Glu Ser Glu Thr Ser Cys Leu Val Thr Thr Thr Asp Phe Gln Ile Gln
    210                 215                 220

Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr
225                 230                 235                 240

Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                245                 250                 255

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            260                 265                 270

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro
        275                 280                 285

Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu
    290                 295                 300

Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro
305                 310                 315                 320

Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
                325                 330                 335

Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
            340                 345                 350

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
        355                 360                 365
```

```
Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
    370                 375                 380

Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
385                 390                 395                 400

Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
                405                 410                 415

Thr Leu Thr His His His His His His
            420                 425
```

<210> 127
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 127

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110
```

```
Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
                165                 170                 175

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro
        195                 200                 205

Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr
    210                 215                 220

Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly
225                 230                 235                 240

Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp
                245                 250                 255

Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln
            260                 265                 270

Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met
        275                 280                 285

Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys
    290                 295                 300

Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His
305                 310                 315                 320
```

```
Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg
                325                 330                 335

Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly
            340                 345                 350

Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu
        355                 360                 365

Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly
    370                 375                 380

Arg Pro Glu Ser Glu Thr Ser Cys Leu Val Thr Thr Thr Asp Phe Gln
385                 390                 395                 400

Ile Gln Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr
                405                 410                 415

Glu Tyr Gln His His His His His His
            420                 425


<210> 128
<211> 555
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 128
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60
```

```
Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    130                 135                 140

Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro
145                 150                 155                 160

Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr
                165                 170                 175

Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly
            180                 185                 190

Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp
        195                 200                 205

Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln
    210                 215                 220

Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met
225                 230                 235                 240

Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys
                245                 250                 255

Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His
            260                 265                 270

Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg
```

```
        275                 280                 285

Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly
    290                 295                 300

Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu
305                 310                 315                 320

Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly
                325                 330                 335

Arg Pro Glu Ser Glu Thr Ser Cys Leu Val Thr Thr Thr Asp Phe Gln
            340                 345                 350

Ile Gln Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr
        355                 360                 365

Glu Tyr Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
    370                 375                 380

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
385                 390                 395                 400

Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
                405                 410                 415

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
            420                 425                 430

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
        435                 440                 445

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
    450                 455                 460

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
465                 470                 475                 480

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
                485                 490                 495
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
            500                 505                 510


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
        515                 520                 525


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
    530                 535                 540


Ile Ser Thr Leu Thr His His His His His His
545                 550                 555


<210> 129
<211> 555
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 129
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30


Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45


Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110
```

```
Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
                165                 170                 175

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro
        195                 200                 205

Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr
    210                 215                 220

Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly
225                 230                 235                 240

Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp
                245                 250                 255

Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln
            260                 265                 270

Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met
        275                 280                 285

Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys
    290                 295                 300

Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His
305                 310                 315                 320
```

```
Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg
                325                 330                 335

Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly
            340                 345                 350

Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu
        355                 360                 365

Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly
    370                 375                 380

Arg Pro Glu Ser Glu Thr Ser Cys Leu Val Thr Thr Thr Asp Phe Gln
385                 390                 395                 400

Ile Gln Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr
                405                 410                 415

Glu Tyr Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            420                 425                 430

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
        435                 440                 445

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
    450                 455                 460

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
465                 470                 475                 480

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
                485                 490                 495

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
            500                 505                 510

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
        515                 520                 525

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
    530                 535                 540
```

```
Val Thr Val Ser Ser His His His His His His
545                 550                 555


<210> 130
<211> 555
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 130
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30


Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45


Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110


Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125


Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140


Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
```

```
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
                165                 170                 175

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro
        195                 200                 205

Glu Ile Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr
    210                 215                 220

Met Leu Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly
225                 230                 235                 240

Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp
                245                 250                 255

Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln
            260                 265                 270

Val Thr Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met
        275                 280                 285

Gln Ser Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys
    290                 295                 300

Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His
305                 310                 315                 320

Phe Val Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg
                325                 330                 335

Ala Leu His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly
            340                 345                 350

Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu
        355                 360                 365
```

```
Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly
    370                 375                 380

Arg Pro Glu Ser Glu Thr Ser Cys Leu Val Thr Thr Thr Asp Phe Gln
385                 390                 395                 400

Ile Gln Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr
                405                 410                 415

Glu Tyr Gln Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
            420                 425                 430

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
        435                 440                 445

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
    450                 455                 460

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
465                 470                 475                 480

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
                485                 490                 495

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
            500                 505                 510

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
        515                 520                 525

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
    530                 535                 540

Val Thr Val Ser Ser His His His His His His
545                 550                 555
```

<210> 131
<211> 575
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 131
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
145 150 155 160

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
165 170 175

Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala
180 185 190

```
Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr
        195                 200                 205

Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu
                245                 250                 255

Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
        275                 280                 285

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
    290                 295                 300

Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr
305                 310                 315                 320

Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser
                325                 330                 335

Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
            340                 345                 350

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
        355                 360                 365

Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly
    370                 375                 380

Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly
385                 390                 395                 400

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                405                 410                 415
```

```
Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
            420                 425                 430

Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
        435                 440                 445

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
    450                 455                 460

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
465                 470                 475                 480

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
                485                 490                 495

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
            500                 505                 510

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
        515                 520                 525

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
    530                 535                 540

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
545                 550                 555                 560

Cys Gln Ser Ile Ile Ser Thr Leu Thr His His His His His His
                565                 570                 575
```

<210> 132
<211> 704
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 132

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
```

```
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
                165                 170                 175

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly
        195                 200                 205

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
    210                 215                 220
```

```
Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala
225                 230                 235                 240

Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr
                245                 250                 255

Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp
            260                 265                 270

Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
        275                 280                 285

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu
    290                 295                 300

Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly
305                 310                 315                 320

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Asp Ile Gln Met
                325                 330                 335

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
            340                 345                 350

Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr
        355                 360                 365

Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser
    370                 375                 380

Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
385                 390                 395                 400

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
                405                 410                 415

Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly
            420                 425                 430

Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
        435                 440                 445

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
    450                 455                 460

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
465                 470                 475                 480

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
                485                 490                 495

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
            500                 505                 510

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
        515                 520                 525

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
    530                 535                 540

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
545                 550                 555                 560

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
                565                 570                 575

Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly
            580                 585                 590

Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
        595                 600                 605

Ser Gly Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala
    610                 615                 620

Pro Gly Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr
625                 630                 635                 640

Ile Ser Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
                645                 650                 655
```

```
Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu
            660                 665                 670


Asp Thr Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp
        675                 680                 685


Gly Lys Gly Thr Gln Val Thr Val Ser Ser His His His His His His
    690                 695                 700


<210> 133
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 133
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80


Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95


Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110


Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125
```

```
Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335
```

```
Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            420                 425                 430

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        435                 440                 445

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
    450                 455                 460

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
465                 470                 475                 480

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
                485                 490                 495

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
            500                 505                 510

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
        515                 520                 525

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
    530                 535                 540

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
545                 550                 555                 560
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                565                 570                 575


Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
            580                 585                 590


Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
        595                 600                 605


Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
    610                 615                 620


Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
625                 630                 635                 640


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
                645                 650                 655


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
            660                 665                 670


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His
        675                 680                 685


His
```

<210> 134
<211> 545
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 134

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
```

```
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    210                 215                 220

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
225                 230                 235                 240
```

```
Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                245                 250                 255

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            260                 265                 270

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        275                 280                 285

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    290                 295                 300

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
305                 310                 315                 320

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                325                 330                 335

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            340                 345                 350

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        355                 360                 365

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
    370                 375                 380

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
385                 390                 395                 400

Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly
            420                 425                 430

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
        435                 440                 445

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
```

```
    450                 455                 460

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
465                 470                 475                 480

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
                485                 490                 495

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
            500                 505                 510

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
        515                 520                 525

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His His His
    530                 535                 540

His
545
```

<210> 135
<211> 575
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 135

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60
```

```
Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
                165                 170                 175

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly
        195                 200                 205

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
    210                 215                 220

Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala
225                 230                 235                 240

Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr
                245                 250                 255

Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp
            260                 265                 270

Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
        275                 280                 285
```

```
Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu
    290                 295                 300

Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly
305                 310                 315                 320

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
                325                 330                 335

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
            340                 345                 350

Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr
        355                 360                 365

Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser
    370                 375                 380

Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
385                 390                 395                 400

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
                405                 410                 415

Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly
            420                 425                 430

Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly
        435                 440                 445

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
    450                 455                 460

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
465                 470                 475                 480

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
                485                 490                 495
```

```
Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
            500                 505                 510


Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
        515                 520                 525


Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
    530                 535                 540


Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
545                 550                 555                 560


Gln Gly Thr Leu Val Thr Val Ser Ser His His His His His His
                565                 570                 575


<210> 136
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 136
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80


Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95
```

```
Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140

Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
145                 150                 155                 160

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
                165                 170                 175

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
            180                 185                 190

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
        195                 200                 205

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
    210                 215                 220

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
225                 230                 235                 240

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
                245                 250                 255

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
            260                 265                 270

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
        275                 280                 285

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
    290                 295                 300

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
```

305 310 315 320

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
325 330 335

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
340 345 350

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
355 360 365

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
370 375 380

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
385 390 395 400

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His
405 410 415

His His His His His
420

<210> 137
<211> 806
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 137
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

```
Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Ser Gly Ser Gly Ser Gly Ser
    130                 135                 140

Gly Ser Gly Ser Gly Ser Gly Ser Glu Val Gln Leu Val Glu Ser Gly
145                 150                 155                 160

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
                165                 170                 175

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
            180                 185                 190

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        195                 200                 205

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    210                 215                 220

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
225                 230                 235                 240

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
                245                 250                 255

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Ser Gly Ser Gly
            260                 265                 270
```

```
Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gln Val Gln Leu Gln
        275                 280                 285

Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser
    290                 295                 300

Cys Ala Ala Ser Gly Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr
305                 310                 315                 320

Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg
                325                 330                 335

Gly Gly Thr Ile Ser Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile
            340                 345                 350

Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu
        355                 360                 365

Lys Pro Glu Asp Thr Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr
    370                 375                 380

Asp Tyr Trp Gly Lys Gly Thr Gln Val Thr Val Ser Ser Gly Ser Gly
385                 390                 395                 400

Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Glu Val Gln
                405                 410                 415

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
            420                 425                 430

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala
        435                 440                 445

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile
    450                 455                 460

Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe
465                 470                 475                 480
```

```
Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser
            500                 505                 510

Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
        515                 520                 525

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    530                 535                 540

Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
545                 550                 555                 560

Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr
                565                 570                 575

Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu
            580                 585                 590

Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser
        595                 600                 605

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
    610                 615                 620

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro
625                 630                 635                 640

Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Ser Gly Gly Pro
                645                 650                 655

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser
            660                 665                 670

Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu
        675                 680                 685

Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr
    690                 695                 700
```

```
Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu
705                 710                 715                 720


Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val
                725                 730                 735


Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu
            740                 745                 750


Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr
        755                 760                 765


Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe
    770                 775                 780


Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
785                 790                 795                 800


His His His His His His
                805


<210> 138
<211> 676
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 138
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
```

```
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Ser Gly Ser Gly Ser Gly Ser
    130                 135                 140

Gly Ser Gly Ser Gly Ser Gly Ser Glu Val Gln Leu Val Glu Ser Gly
145                 150                 155                 160

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
                165                 170                 175

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
            180                 185                 190

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        195                 200                 205

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    210                 215                 220

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
225                 230                 235                 240

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
                245                 250                 255

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Ser Gly Ser Gly
            260                 265                 270
```

```
Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Glu Val Gln Leu Val
        275                 280                 285

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
    290                 295                 300

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val
305                 310                 315                 320

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser
                325                 330                 335

Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile
            340                 345                 350

Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu
        355                 360                 365

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp
    370                 375                 380

Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
                405                 410                 415

Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
            420                 425                 430

Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val
        435                 440                 445

Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr
    450                 455                 460

Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
465                 470                 475                 480

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
```

```
                485                 490                 495

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr
            500                 505                 510

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Ser Gly Gly Pro Gly Pro
        515                 520                 525

Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr
    530                 535                 540

Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met
545                 550                 555                 560

Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met
                565                 570                 575

Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His
            580                 585                 590

Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn
        595                 600                 605

Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser
    610                 615                 620

Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe
625                 630                 635                 640

Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn
                645                 650                 655

Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr His His
            660                 665                 670

His His His His
        675
```

<210> 139
<211> 421
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 139
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
50 55 60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65 70 75 80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
100 105 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
115 120 125

Gly Thr Gln Val Thr Val Ser Ser Gly Ser Gly Ser Gly Ser Gly Ser
130 135 140

Gly Ser Gly Ser Gly Ser Gly Ser Glu Val Gln Leu Val Glu Ser Gly
145 150 155 160

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
165 170 175

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
180 185 190

```
Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        195                 200                 205

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    210                 215                 220

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
225                 230                 235                 240

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
                245                 250                 255

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly
            260                 265                 270

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser
        275                 280                 285

Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln
    290                 295                 300

Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg
305                 310                 315                 320

Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys
                325                 330                 335

His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu
            340                 345                 350

Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile
        355                 360                 365

Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr
    370                 375                 380

Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu
385                 390                 395                 400
```

```
Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr His
                405                 410                 415


His His His His His
            420


<210> 140
<211> 420
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 140
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80


Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95


Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110


Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125


Gly Thr Gln Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly
    130                 135                 140
```

```
Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
```

```
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His
                405                 410                 415

His His His His
            420
```

<210> 141
<211> 550
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 141

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95
```

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr
        275                 280                 285

Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met
    290                 295                 300

Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met
305                 310                 315                 320
```

```
Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His
                325                 330                 335

Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn
            340                 345                 350

Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser
        355                 360                 365

Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe
    370                 375                 380

Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn
385                 390                 395                 400

Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly
                405                 410                 415

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln
            420                 425                 430

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
        435                 440                 445

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
    450                 455                 460

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
465                 470                 475                 480

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
                485                 490                 495

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
            500                 505                 510

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
        515                 520                 525
```

```
Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535                 540


His His His His His His
545                 550


<210> 142
<211> 420
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 142
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80


Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95


Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110


Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125


Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140
```

```
Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
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        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His
                405                 410                 415

His His His His
            420


<210> 143
<211> 290
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 143
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95
```

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr His His His His
        275                 280                 285

His His
    290
```

<210> 144
<211> 291

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 144
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
20 25 30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
35 40 45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
50 55 60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65 70 75 80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
85 90 95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
100 105 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
115 120 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
130 135 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145 150 155 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
165 170 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys

```
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His
        275                 280                 285

His His His
    290


<210> 145
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 145
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45
```

```
Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly
    130                 135                 140

Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270
```

```
Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            420                 425                 430

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        435                 440                 445

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
    450                 455                 460

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
465                 470                 475                 480
```

```
Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
                485                 490                 495

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
            500                 505                 510

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
        515                 520                 525

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
    530                 535                 540

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
545                 550                 555                 560

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                565                 570                 575

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
            580                 585                 590

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
        595                 600                 605

Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
    610                 615                 620

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
625                 630                 635                 640

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
                645                 650                 655

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
            660                 665                 670

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His
        675                 680                 685

His
```

<210> 146
<211> 704
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 146
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
20 25 30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
35 40 45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
50 55 60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65 70 75 80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
85 90 95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
100 105 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
115 120 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
130 135 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145 150 155 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly

```
                165                 170                 175

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
            180                 185                 190

Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly
        195                 200                 205

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
    210                 215                 220

Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala
225                 230                 235                 240

Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr
                245                 250                 255

Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp
            260                 265                 270

Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
        275                 280                 285

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu
    290                 295                 300

Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly
305                 310                 315                 320

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met
                325                 330                 335

Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
            340                 345                 350

Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr
        355                 360                 365

Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser
    370                 375                 380
```

```
Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
385                 390                 395                 400

Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
                405                 410                 415

Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly
            420                 425                 430

Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly
        435                 440                 445

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
    450                 455                 460

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
465                 470                 475                 480

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
                485                 490                 495

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
            500                 505                 510

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
        515                 520                 525

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
    530                 535                 540

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
545                 550                 555                 560

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
                565                 570                 575

Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly
            580                 585                 590

Gly Gly Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala
```

595 600 605

Ser Gly Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr
610 615 620

Pro Gly Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser
625 630 635 640

Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
645 650 655

Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu
660 665 670

Asp Thr Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp
675 680 685

Gly Gln Gly Thr Gln Val Thr Val Ser Ser His His His His His His
690 695 700

<210> 147
<211> 674
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 147
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
50 55 60

```
Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65                  70                  75                  80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Ala Pro Thr Ser Ser Ser Thr Lys
    130                 135                 140

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
145                 150                 155                 160

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
                165                 170                 175

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
            180                 185                 190

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
        195                 200                 205

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
    210                 215                 220

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
225                 230                 235                 240

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
                245                 250                 255

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
            260                 265                 270

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
        275                 280                 285
```

```
Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
    290                 295                 300

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
305                 310                 315                 320

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
                325                 330                 335

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
            340                 345                 350

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
        355                 360                 365

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
    370                 375                 380

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
385                 390                 395                 400

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln
            420                 425                 430

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg
        435                 440                 445

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala
    450                 455                 460

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile
465                 470                 475                 480

Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe
                485                 490                 495
```

```
Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn
            500                 505                 510

Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser
        515                 520                 525

Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
    530                 535                 540

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
545                 550                 555                 560

Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
                565                 570                 575

Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr
            580                 585                 590

Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu
        595                 600                 605

Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser
    610                 615                 620

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
625                 630                 635                 640

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro
                645                 650                 655

Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His
            660                 665                 670

His His
```

<210> 148
<211> 704
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 148
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
65 70 75 80

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
115 120 125

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
130 135 140

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
145 150 155 160

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
165 170 175

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
180 185 190

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg

```
        195                 200                 205

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    210                 215                 220

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
225                 230                 235                 240

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                245                 250                 255

Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
            260                 265                 270

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        275                 280                 285

Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
    290                 295                 300

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
305                 310                 315                 320

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
                325                 330                 335

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
            340                 345                 350

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
        355                 360                 365

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
    370                 375                 380

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
385                 390                 395                 400

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
                405                 410                 415
```

```
Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
            420                 425                 430

Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met
        435                 440                 445

Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
    450                 455                 460

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
465                 470                 475                 480

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
                485                 490                 495

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
            500                 505                 510

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
        515                 520                 525

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
    530                 535                 540

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
545                 550                 555                 560

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
                565                 570                 575

Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly
            580                 585                 590

Gly Gly Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala
        595                 600                 605

Ser Gly Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr
    610                 615                 620

Pro Gly Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser
```

625 630 635 640

Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
645 650 655

Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu
660 665 670

Asp Thr Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp
675 680 685

Gly Gln Gly Thr Gln Val Thr Val Ser Ser His His His His His His
690 695 700

<210> 149
<211> 704
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 149
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
50 55 60

Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65 70 75 80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser
        275                 280                 285

Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
    290                 295                 300

Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln
305                 310                 315                 320
```

```
Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser
                325                 330                 335

Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg
            340                 345                 350

Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala
        355                 360                 365

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala
    370                 375                 380

Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly
385                 390                 395                 400

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
                405                 410                 415

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
            420                 425                 430

Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp
        435                 440                 445

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala
    450                 455                 460

Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
465                 470                 475                 480

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
                485                 490                 495

Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly
            500                 505                 510

Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly
        515                 520                 525
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    530                 535                 540

Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
545                 550                 555                 560

Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln
                565                 570                 575

Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly
            580                 585                 590

Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys
        595                 600                 605

Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu
    610                 615                 620

Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser
625                 630                 635                 640

Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val
                645                 650                 655

Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr
            660                 665                 670

Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr
        675                 680                 685

Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr His His His His His His
    690                 695                 700


<210> 150
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
```

<400> 150
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
65 70 75 80

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
115 120 125

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
130 135 140

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
145 150 155 160

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
165 170 175

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
180 185 190

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
195 200 205

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp

```
    210                 215                 220

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
225                 230                 235                 240

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                245                 250                 255

Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
            260                 265                 270

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        275                 280                 285

Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
    290                 295                 300

Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
305                 310                 315                 320

Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
                325                 330                 335

Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala
            340                 345                 350

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr
        355                 360                 365

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val
    370                 375                 380

Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr
385                 390                 395                 400

Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
                405                 410                 415

Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln
            420                 425                 430
```

```
Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly
        435                 440                 445

Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys
    450                 455                 460

Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu
465                 470                 475                 480

Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser
                485                 490                 495

Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val
            500                 505                 510

Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr
        515                 520                 525

Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr
    530                 535                 540

Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly
545                 550                 555                 560

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser
                565                 570                 575

Gly Gly Gly Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala
            580                 585                 590

Ala Ser Gly Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln
        595                 600                 605

Thr Pro Gly Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly
    610                 615                 620

Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
625                 630                 635                 640

Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro
```

645 650 655

Glu Asp Thr Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr
660 665 670

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser His His His His His
675 680 685

His

<210> 151
<211> 700
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 151
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
50 55 60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65 70 75 80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
100 105 110

```
Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Arg Gly Glu Thr Gly
    290                 295                 300

Pro Ala Ala Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
305                 310                 315                 320

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
                325                 330                 335
```

```
Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
            340                 345                 350

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
        355                 360                 365

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
    370                 375                 380

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
385                 390                 395                 400

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
                405                 410                 415

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
        435                 440                 445

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
    450                 455                 460

Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser
465                 470                 475                 480

Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro
                485                 490                 495

Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr
            500                 505                 510

Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn
        515                 520                 525

Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
    530                 535                 540
```

```
Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp
545                 550                 555                 560


Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly
                565                 570                 575


Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr
            580                 585                 590


Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
        595                 600                 605


Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln
    610                 615                 620


Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe
625                 630                 635                 640


Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
                645                 650                 655


Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
            660                 665                 670


Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly
        675                 680                 685


Thr Lys Val Glu Ile Lys His His His His His His
    690                 695                 700


<210> 152
<211> 276
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 152
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15
```

```
Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Phe Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60

Lys Gly Leu Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr
65                  70                  75                  80

Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95

Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Ala Arg Gly Val Gly Ala Phe Arg Pro Tyr
        115                 120                 125

Arg Lys His Glu Trp Gly Gln Gly Thr Leu Val Thr Val Ser Arg Gly
    130                 135                 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Ser
145                 150                 155                 160

Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln Thr Val
                165                 170                 175

Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Ser Tyr Tyr Ala Ser Trp
            180                 185                 190

Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr Gly Lys
        195                 200                 205

Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Ser Ser
    210                 215                 220

Gly Asn Thr Ala Ser Leu Thr Thr Thr Gly Ala Gln Ala Glu Asp Glu
```

225 230 235 240

Ala Asp Tyr Tyr Cys Asn Ser Ser Pro Phe Glu His Asn Leu Val Val
245 250 255

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu His His His His His His
260 265 270

Glu Pro Glu Ala
275

<210> 153
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 153
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Gln Ser Gly Ala Glu
20 25 30

Leu Val Arg Pro Gly Thr Ser Val Lys Val Ser Cys Lys Ala Ser Gly
35 40 45

Tyr Ala Phe Thr Asn Tyr Leu Ile Glu Trp Val Lys Gln Arg Pro Gly
50 55 60

Gln Gly Leu Glu Trp Ile Gly Val Ile Asn Pro Gly Ser Gly Gly Thr
65 70 75 80

Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys
85 90 95

Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Asp Asp
100 105 110

```
Ser Ala Val Tyr Phe Cys Ala Arg Trp Arg Gly Asp Gly Tyr Tyr Ala
        115                 120                 125


Tyr Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Gly
    130                 135                 140


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
145                 150                 155                 160


Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg
                165                 170                 175


Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp
            180                 185                 190


Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        195                 200                 205


Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe
    210                 215                 220


Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His Pro Val
225                 230                 235                 240


Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu Asp
                245                 250                 255


Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys His His His
            260                 265                 270


His His His Glu Pro Glu Ala
        275


<210> 154
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
```

<400> 154
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1   5   10   15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Gln Ser Gly Ala Glu
            20   25   30

Leu Val Arg Pro Gly Thr Ser Val Lys Val Ser Cys Lys Ala Ser Gly
        35   40   45

Tyr Ala Phe Thr Asn Tyr Leu Ile Glu Trp Val Lys Gln Arg Pro Gly
    50   55   60

Gln Gly Leu Glu Trp Ile Gly Val Ile Asn Pro Gly Ser Gly Gly Thr
65   70   75   80

Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys
                85   90   95

Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Asp Asp
            100   105   110

Ser Ala Val Tyr Phe Cys Ala Arg Trp Arg Gly Asp Gly Tyr Tyr Ala
        115   120   125

Tyr Phe Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ser
    130   135   140

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Asp Ile
145   150   155   160

Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg
                165   170   175

Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp Gly Asp
            180   185   190

Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        195   200   205

Leu Ile Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe

```
    210                 215                 220

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His Pro Val
225                 230                 235                 240

Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu Asp
                245                 250                 255

Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys His His His
            260                 265                 270

His His His Glu Pro Glu Ala
        275


<210> 155
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 155
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Asp Ile Val Leu Thr Gln Ser Pro Ala Ser
            20                  25                  30

Leu Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Lys Ala Ser
        35                  40                  45

Gln Ser Val Asp Tyr Asp Gly Asp Ser Tyr Met Asn Trp Tyr Gln Gln
    50                  55                  60

Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu
65                  70                  75                  80

Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
                85                  90                  95
```

```
Phe Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr
            100                 105                 110

Tyr Cys Gln Gln Ser Asn Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr
        115                 120                 125

Lys Leu Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    130                 135                 140

Gly Gly Gly Ser Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val
145                 150                 155                 160

Arg Pro Gly Thr Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala
                165                 170                 175

Phe Thr Asn Tyr Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly
            180                 185                 190

Leu Glu Trp Ile Gly Val Ile Asn Pro Gly Ser Gly Gly Thr Asn Tyr
        195                 200                 205

Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser
    210                 215                 220

Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala
225                 230                 235                 240

Val Tyr Phe Cys Ala Arg Trp Arg Gly Asp Gly Tyr Tyr Ala Tyr Phe
                245                 250                 255

Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser His His His
            260                 265                 270

His His His Glu Pro Glu Ala
        275
```

<210> 156
<211> 279
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 156
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Asp Ile Val Leu Thr Gln Ser Pro Ala Ser
20 25 30

Leu Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Lys Ala Ser
35 40 45

Gln Ser Val Asp Tyr Asp Gly Asp Ser Tyr Met Asn Trp Tyr Gln Gln
50 55 60

Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Ala Ala Ser Asn Leu
65 70 75 80

Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
85 90 95

Phe Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr
100 105 110

Tyr Cys Gln Gln Ser Asn Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr
115 120 125

Lys Leu Glu Ile Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

Leu Pro Gly Ser Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val
145 150 155 160

Arg Pro Gly Thr Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala
165 170 175

Phe Thr Asn Tyr Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly
180 185 190

Leu Glu Trp Ile Gly Val Ile Asn Pro Gly Ser Gly Gly Thr Asn Tyr

```
        195                 200                 205

Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser
    210                 215                 220

Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala
225                 230                 235                 240

Val Tyr Phe Cys Ala Arg Trp Arg Gly Asp Gly Tyr Tyr Ala Tyr Phe
                245                 250                 255

Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser His His His
            260                 265                 270

His His His Glu Pro Glu Ala
        275
```

<210> 157
<211> 295
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 157

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80
```

```
Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser
145                 150                 155                 160

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His
        275                 280                 285

His His His Glu Pro Glu Ala
    290                 295
```

<210> 158
<211> 765
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 158
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
20 25 30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
35 40 45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
50 55 60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65 70 75 80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
85 90 95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
100 105 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
115 120 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
130 135 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser
145 150 155 160

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ala His Lys Ser Glu

```
                165                 170                 175

Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
            180                 185                 190

Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
        195                 200                 205

His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
    210                 215                 220

Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
225                 230                 235                 240

Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
                245                 250                 255

Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
            260                 265                 270

Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
        275                 280                 285

Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
    290                 295                 300

Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr
305                 310                 315                 320

Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
                325                 330                 335

Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
            340                 345                 350

Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
        355                 360                 365

Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
    370                 375                 380
```

```
Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
385                 390                 395                 400

Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
                405                 410                 415

His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
            420                 425                 430

Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
        435                 440                 445

Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
    450                 455                 460

Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
465                 470                 475                 480

Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
                485                 490                 495

Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
            500                 505                 510

Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
        515                 520                 525

Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
    530                 535                 540

Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
545                 550                 555                 560

Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
                565                 570                 575

Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
            580                 585                 590

Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
```

595 600 605

Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
610 615 620

Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
625 630 635 640

Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
645 650 655

Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
660 665 670

Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
675 680 685

Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
690 695 700

His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
705 710 715 720

Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
725 730 735

Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
740 745 750

Leu Gly Leu His His His His His His Glu Pro Glu Ala
755 760 765

<210> 159
<211> 765
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 159

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                  10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser
145                 150                 155                 160

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ala His Lys Ser Glu
                165                 170                 175

Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
            180                 185                 190

Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
        195                 200                 205

His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
    210                 215                 220
```

```
Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
225                 230                 235                 240

Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
                245                 250                 255

Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
            260                 265                 270

Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
        275                 280                 285

Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
    290                 295                 300

Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr
305                 310                 315                 320

Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
                325                 330                 335

Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
            340                 345                 350

Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
        355                 360                 365

Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
    370                 375                 380

Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
385                 390                 395                 400

Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
                405                 410                 415

His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
            420                 425                 430
```

```
Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
        435                 440                 445

Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
    450                 455                 460

Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
465                 470                 475                 480

Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
                485                 490                 495

Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
            500                 505                 510

Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
        515                 520                 525

Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
    530                 535                 540

Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
545                 550                 555                 560

Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
                565                 570                 575

Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
            580                 585                 590

Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
        595                 600                 605

Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
    610                 615                 620

Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
625                 630                 635                 640

Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
                645                 650                 655
```

```
Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
            660                 665                 670

Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
        675                 680                 685

Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
    690                 695                 700

His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
705                 710                 715                 720

Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
                725                 730                 735

Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
            740                 745                 750

Leu Gly Leu His His His His His His Glu Pro Glu Ala
        755                 760                 765
```

<210> 160
<211> 765
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 160

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
```

```
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Asp Ala His Lys Ser Glu
                165                 170                 175

Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu
            180                 185                 190

Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp
        195                 200                 205

His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val
    210                 215                 220

Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
225                 230                 235                 240

Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
                245                 250                 255

Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
            260                 265                 270
```

```
Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
        275                 280                 285

Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
    290                 295                 300

Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr
305                 310                 315                 320

Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
                325                 330                 335

Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
            340                 345                 350

Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu
        355                 360                 365

Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
    370                 375                 380

Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
385                 390                 395                 400

Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
                405                 410                 415

His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
            420                 425                 430

Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys
        435                 440                 445

Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu
    450                 455                 460

Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val
465                 470                 475                 480

Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
```

```
                485                 490                 495

Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
            500                 505                 510

Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
        515                 520                 525

Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys Val Phe
    530                 535                 540

Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
545                 550                 555                 560

Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
                565                 570                 575

Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
            580                 585                 590

Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
        595                 600                 605

Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
    610                 615                 620

Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
625                 630                 635                 640

Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro
                645                 650                 655

Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
            660                 665                 670

Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
        675                 680                 685

Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
    690                 695                 700
```

```
His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
705                 710                 715                 720


Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr
                725                 730                 735


Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
            740                 745                 750


Leu Gly Leu His His His His His His Glu Pro Glu Ala
        755                 760                 765


<210> 161
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 161
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30


Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45


Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110
```

```
Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
        275                 280                 285

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly
305                 310                 315                 320
```

```
Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
                325                 330                 335

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            340                 345                 350

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        355                 360                 365

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    370                 375                 380

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
385                 390                 395                 400

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                405                 410                 415

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            420                 425                 430

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    450                 455                 460

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
465                 470                 475                 480

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                485                 490                 495

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            500                 505                 510

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        515                 520                 525

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
    530                 535                 540
```

```
Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
545                 550                 555                 560

Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly
                565                 570                 575

Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly
            580                 585                 590

Gly Gly Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala
        595                 600                 605

Ser Gly Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr
    610                 615                 620

Pro Gly Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser
625                 630                 635                 640

Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
                645                 650                 655

Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu
            660                 665                 670

Asp Thr Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp
        675                 680                 685

Gly Gln Gly Thr Gln Val Thr Val Ser Ser His His His His His His
    690                 695                 700

Glu Pro Glu Ala
705
```

<210> 162
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 162
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
50 55 60

Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65 70 75 80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
100 105 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
115 120 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
130 135 140

Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145 150 155 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
165 170 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
180 185 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
195 200 205

```
Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
```

```
            420                 425                 430

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro
        435                 440                 445

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    450                 455                 460

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
465                 470                 475                 480

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val
                485                 490                 495

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser
            500                 505                 510

Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile
        515                 520                 525

Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu
    530                 535                 540

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp
545                 550                 555                 560

Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
            580                 585                 590

Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
        595                 600                 605

Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val
    610                 615                 620

Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr
625                 630                 635                 640
```

```
Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
                645                 650                 655


Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
            660                 665                 670


Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr
        675                 680                 685


Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His
    690                 695                 700


Glu Pro Glu Ala
705


<210> 163
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 163
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
    50                  55                  60


Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65                  70                  75                  80


Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95
```

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
            100                 105                 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly
    130                 135                 140

Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300
```

```
Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            420                 425                 430

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro
        435                 440                 445

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    450                 455                 460

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
465                 470                 475                 480

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val
                485                 490                 495

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser
            500                 505                 510

Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile
        515                 520                 525
```

```
Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu
    530                 535                 540

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp
545                 550                 555                 560

Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
            580                 585                 590

Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
        595                 600                 605

Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val
    610                 615                 620

Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr
625                 630                 635                 640

Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
                645                 650                 655

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
            660                 665                 670

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr
        675                 680                 685

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His
    690                 695                 700

Glu Pro Glu Ala
705
```

<210> 164
<211> 161
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 164
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
20 25 30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
35 40 45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
50 55 60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65 70 75 80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
85 90 95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
100 105 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
115 120 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
130 135 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr His His His His His
145 150 155 160

His

<210> 165
<211> 708
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 165
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
20 25 30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
35 40 45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
50 55 60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65 70 75 80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
85 90 95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
100 105 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
115 120 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
130 135 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145 150 155 160

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
165 170 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
180 185 190

```
Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
        275                 280                 285

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly
305                 310                 315                 320

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
                325                 330                 335

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            340                 345                 350

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        355                 360                 365

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    370                 375                 380

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
385                 390                 395                 400
```

```
Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                405                 410                 415

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            420                 425                 430

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    450                 455                 460

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
465                 470                 475                 480

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                485                 490                 495

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            500                 505                 510

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        515                 520                 525

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
    530                 535                 540

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
545                 550                 555                 560

Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly
                565                 570                 575

Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln Glu Ser Gly
            580                 585                 590

Gly Gly Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
        595                 600                 605

Ser Gly Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala
    610                 615                 620
```

```
Pro Gly Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr
625                 630                 635                 640


Ile Ser Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
                645                 650                 655


Asn Ala Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu
            660                 665                 670


Asp Thr Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp
        675                 680                 685


Gly Lys Gly Thr Gln Val Thr Val Ser Ser His His His His His His
    690                 695                 700


Glu Pro Glu Ala
705


<210> 166
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 166
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
```

```
65                  70                  75                  80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                85                  90                  95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
            100                 105                 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
        115                 120                 125

Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145                 150                 155                 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
                165                 170                 175

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285
```

```
Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            420                 425                 430

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro
        435                 440                 445

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    450                 455                 460

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
465                 470                 475                 480

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val
                485                 490                 495

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser
```

```
            500                 505                 510

Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile
        515                 520                 525

Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu
    530                 535                 540

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp
545                 550                 555                 560

Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
            580                 585                 590

Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
        595                 600                 605

Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val
    610                 615                 620

Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr
625                 630                 635                 640

Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
                645                 650                 655

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
            660                 665                 670

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr
        675                 680                 685

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His
    690                 695                 700

Glu Pro Glu Ala
705
```

<210> 167
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 167
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Arg Ile Phe Ser Ile Asp Ile Met Ser Trp Tyr Arg Gln Ala Pro Gly
50 55 60

Lys Gln Arg Glu Leu Val Ala Arg Ile Thr Arg Gly Gly Thr Ile Ser
65 70 75 80

Tyr Asp Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr
100 105 110

Gly Val Tyr Tyr Cys Asn Ala Leu Tyr Gly Thr Asp Tyr Trp Gly Lys
115 120 125

Gly Thr Gln Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly
130 135 140

Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys
145 150 155 160

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
165 170 175

```
Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
            180                 185                 190

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln
        195                 200                 205

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
    210                 215                 220

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
225                 230                 235                 240

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
                245                 250                 255

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
            260                 265                 270

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro
        275                 280                 285

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    290                 295                 300

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
305                 310                 315                 320

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
                325                 330                 335

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
            340                 345                 350

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
        355                 360                 365

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
    370                 375                 380
```

```
Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
385                 390                 395                 400

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
                405                 410                 415

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            420                 425                 430

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro
        435                 440                 445

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
    450                 455                 460

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
465                 470                 475                 480

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val
                485                 490                 495

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser
            500                 505                 510

Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile
        515                 520                 525

Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu
    530                 535                 540

Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp
545                 550                 555                 560

Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                565                 570                 575

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp
            580                 585                 590

Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
        595                 600                 605
```

```
Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val
    610                 615                 620

Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr
625                 630                 635                 640

Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
                645                 650                 655

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
            660                 665                 670

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr
        675                 680                 685

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His
    690                 695                 700

Glu Pro Glu Ala
705
```

<210> 168
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 168

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
```

```
    50                  55                  60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140

Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn
145                 150                 155                 160

Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu
                165                 170                 175

Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln
            180                 185                 190

Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val
        195                 200                 205

Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp
    210                 215                 220

Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp
225                 230                 235                 240

Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val
                245                 250                 255

Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val
            260                 265                 270
```

```
Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His
        275                 280                 285

Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu
    290                 295                 300

Ser Ser Ser Ala Asn Val Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
305                 310                 315                 320

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
                325                 330                 335

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
            340                 345                 350

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
        355                 360                 365

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
    370                 375                 380

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
385                 390                 395                 400

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
                405                 410                 415

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
            420                 425                 430

Gly Thr Leu Val Thr Val Ser Ser His His His His His His Glu Pro
        435                 440                 445

Glu Ala
    450
```

<210> 169
<211> 198
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 169
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Cys Asp Leu Pro Gln Thr His Asn Leu Arg
20 25 30

Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro
35 40 45

Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys
50 55 60

Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser
65 70 75 80

Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser
85 90 95

Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His
100 105 110

Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val
115 120 125

Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys
130 135 140

Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro
145 150 155 160

Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser
165 170 175

Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys His His His His
180 185 190

His His Glu Pro Glu Ala
195

<210> 170
<211> 328
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 170
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
130 135 140

Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn
145 150 155 160

```
Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu
                165                 170                 175

Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln
            180                 185                 190

Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val
        195                 200                 205

Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp
    210                 215                 220

Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp
225                 230                 235                 240

Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val
                245                 250                 255

Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val
            260                 265                 270

Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His
        275                 280                 285

Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu
    290                 295                 300

Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys His His
305                 310                 315                 320

His His His His Glu Pro Glu Ala
                325
```

<210> 171
<211> 328
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 171
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Cys Asp Leu Pro Gln Thr His Asn Leu Arg
20 25 30

Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro
35 40 45

Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys
50 55 60

Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser
65 70 75 80

Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser
85 90 95

Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His
100 105 110

Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val
115 120 125

Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys
130 135 140

Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro
145 150 155 160

Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser
165 170 175

Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro
180 185 190

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val
195 200 205

```
Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
    210                 215                 220

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
225                 230                 235                 240

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
                245                 250                 255

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
            260                 265                 270

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
        275                 280                 285

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
    290                 295                 300

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His
305                 310                 315                 320

His His His His Glu Pro Glu Ala
                325
```

<210> 172
<211> 1396
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 172

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Glu Ala His Lys Ser Glu Ile Ala His Arg
            20                  25                  30

Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
        35                  40                  45
```

```
Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
    50                  55                  60

Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
65                  70                  75                  80

Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
                85                  90                  95

Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
            100                 105                 110

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
        115                 120                 125

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
    130                 135                 140

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
145                 150                 155                 160

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
                165                 170                 175

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
            180                 185                 190

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
        195                 200                 205

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
    210                 215                 220

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
225                 230                 235                 240

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
                245                 250                 255

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
```

```
            260                 265                 270

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
        275                 280                 285

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
    290                 295                 300

Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
305                 310                 315                 320

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
                325                 330                 335

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
            340                 345                 350

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
        355                 360                 365

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
    370                 375                 380

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
385                 390                 395                 400

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480
```

```
Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
        595                 600                 605

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu
    610                 615                 620

Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val
625                 630                 635                 640

Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp
                645                 650                 655

Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala
            660                 665                 670

Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile
        675                 680                 685

Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp
```

```
    690                 695                 700

Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys
705                 710                 715                 720

Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp
                725                 730                 735

Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu
            740                 745                 750

Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu
        755                 760                 765

Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg
    770                 775                 780

Glu Glu Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
785                 790                 795                 800

Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu
                805                 810                 815

Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr
            820                 825                 830

Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val
        835                 840                 845

Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys
    850                 855                 860

Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro
865                 870                 875                 880

Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln
                885                 890                 895

Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro
            900                 905                 910
```

```
Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser
        915                 920                 925

Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val
    930                 935                 940

Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala
945                 950                 955                 960

Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys
                965                 970                 975

Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu
            980                 985                 990

Val Ser Ser Val Arg Gln Arg Met  Lys Cys Ser Ser Met  Gln Lys Phe
        995                 1000                1005

Gly Glu  Arg Ala Phe Lys Ala  Trp Ala Val Ala Arg  Leu Ser Gln
    1010                1015                1020

Thr Phe  Pro Asn Ala Asp Phe  Ala Glu Ile Thr Lys  Leu Ala Thr
    1025                1030                1035

Asp Leu  Thr Lys Val Asn Lys  Glu Cys Cys His Gly  Asp Leu Leu
    1040                1045                1050

Glu Cys  Ala Asp Asp Arg Ala  Glu Leu Ala Lys Tyr  Met Cys Glu
    1055                1060                1065

Asn Gln  Ala Thr Ile Ser Ser  Lys Leu Gln Thr Cys  Cys Asp Lys
    1070                1075                1080

Pro Leu  Leu Lys Lys Ala His  Cys Leu Ser Glu Val  Glu His Asp
    1085                1090                1095

Thr Met  Pro Ala Asp Leu Pro  Ala Ile Ala Ala Asp  Phe Val Glu
    1100                1105                1110

Asp Gln  Glu Val Cys Lys Asn  Tyr Ala Glu Ala Lys  Asp Val Phe
```

```
    1115                1120                1125

Leu Gly  Thr Phe Leu Tyr Glu  Tyr Ser Arg Arg His  Pro Asp Tyr
    1130                1135                1140

Ser Val  Ser Leu Leu Leu Arg  Leu Ala Lys Lys Tyr  Glu Ala Thr
    1145                1150                1155

Leu Glu  Lys Cys Cys Ala Glu  Ala Asn Pro Pro Ala  Cys Tyr Gly
    1160                1165                1170

Thr Val  Leu Ala Glu Phe Gln  Pro Leu Val Glu Glu  Pro Lys Asn
    1175                1180                1185

Leu Val  Lys Thr Asn Cys Asp  Leu Tyr Glu Lys Leu  Gly Glu Tyr
    1190                1195                1200

Gly Phe  Gln Asn Ala Ile Leu  Val Arg Tyr Thr Gln  Lys Ala Pro
    1205                1210                1215

Gln Val  Ser Thr Pro Thr Leu  Val Glu Ala Ala Arg  Asn Leu Gly
    1220                1225                1230

Arg Val  Gly Thr Lys Cys Cys  Thr Leu Pro Glu Asp  Gln Arg Leu
    1235                1240                1245

Pro Cys  Val Glu Asp Tyr Leu  Ser Ala Ile Leu Asn  Arg Val Cys
    1250                1255                1260

Leu Leu  His Glu Lys Thr Pro  Val Ser Glu His Val  Thr Lys Cys
    1265                1270                1275

Cys Ser  Gly Ser Leu Val Glu  Arg Arg Pro Cys Phe  Ser Ala Leu
    1280                1285                1290

Thr Val  Asp Glu Thr Tyr Val  Pro Lys Glu Phe Lys  Ala Glu Thr
    1295                1300                1305

Phe Thr  Phe His Ser Asp Ile  Cys Thr Leu Pro Glu  Lys Glu Lys
    1310                1315                1320
```

```
Gln Ile  Lys Lys Gln Thr Ala  Leu Ala Glu Leu Val  Lys His Lys
    1325                1330                1335


Pro Lys  Ala Thr Ala Glu Gln  Leu Lys Thr Val Met  Asp Asp Phe
    1340                1345                1350


Ala Gln  Phe Leu Asp Thr Cys  Cys Lys Ala Ala Asp  Lys Asp Thr
    1355                1360                1365


Cys Phe  Ser Thr Glu Gly Pro  Asn Leu Val Thr Arg  Cys Lys Asp
    1370                1375                1380


Ala Leu  Ala His His His His  His His Glu Pro Glu  Ala
    1385                1390                1395
```

<210> 173
<211> 797
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 173

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Glu Ala His Lys Ser Glu Ile Ala His Arg
            20                  25                  30


Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala
        35                  40                  45


Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu
    50                  55                  60


Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser
65                  70                  75                  80


Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu
                85                  90                  95
```

```
Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys
            100                 105                 110

Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
        115                 120                 125

Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala
    130                 135                 140

Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr
145                 150                 155                 160

Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu
                165                 170                 175

Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala
            180                 185                 190

Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys
        195                 200                 205

Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser
    210                 215                 220

Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
225                 230                 235                 240

Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu
                245                 250                 255

Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu
            260                 265                 270

Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu
        275                 280                 285

Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro
    290                 295                 300
```

```
Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met
305                 310                 315                 320

Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu
                325                 330                 335

Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe
            340                 345                 350

Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu
        355                 360                 365

Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala
    370                 375                 380

Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln
385                 390                 395                 400

Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525
```

```
Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
        595                 600                 605

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu
    610                 615                 620

Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val
625                 630                 635                 640

Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp
                645                 650                 655

Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala
            660                 665                 670

Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile
        675                 680                 685

Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp
    690                 695                 700

Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys
705                 710                 715                 720

Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp
                725                 730                 735
```

```
Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu
            740                 745                 750

Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu
        755                 760                 765

Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg
    770                 775                 780

Glu Glu Lys His His His His His His Glu Pro Glu Ala
785                 790                 795
```

<210> 174
<211> 797
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 174

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Cys Asp Leu Pro Gln Thr His Asn Leu Arg
            20                  25                  30

Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro
        35                  40                  45

Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys
    50                  55                  60

Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser
65                  70                  75                  80

Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser
                85                  90                  95

Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His
            100                 105                 110
```

```
Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val
        115                 120                 125

Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys
    130                 135                 140

Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro
145                 150                 155                 160

Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser
                165                 170                 175

Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro
            180                 185                 190

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Ala His Lys Ser
        195                 200                 205

Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly
    210                 215                 220

Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp
225                 230                 235                 240

Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys
                245                 250                 255

Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu
            260                 265                 270

Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly
        275                 280                 285

Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys
    290                 295                 300

Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg
305                 310                 315                 320

Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr
```

```
                325                 330                 335

Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe
            340                 345                 350

Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu
        355                 360                 365

Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys
    370                 375                 380

Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg
385                 390                 395                 400

Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala
                405                 410                 415

Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala
            420                 425                 430

Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys
        435                 440                 445

Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala
    450                 455                 460

Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr
465                 470                 475                 480

Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val
                485                 490                 495

Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe
            500                 505                 510

Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val
        515                 520                 525

Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr
    530                 535                 540
```

```
Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu
545                 550                 555                 560

Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val
                565                 570                 575

Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys
            580                 585                 590

Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn
        595                 600                 605

Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro
    610                 615                 620

Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys
625                 630                 635                 640

Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu
                645                 650                 655

Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val
            660                 665                 670

Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg
        675                 680                 685

Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu
    690                 695                 700

Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro
705                 710                 715                 720

Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val
                725                 730                 735

Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp
            740                 745                 750

Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp
```

755 760 765

Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp
770 775 780

Ala Leu Ala His His His His His His Glu Pro Glu Ala
785 790 795

<210> 175
<211> 587
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 175
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Gln Val Gln Leu Gln Glu Ser Gly Gly Gly
20 25 30

Leu Ala Gln Ala Gly Gly Ser Leu Ser Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Val Ser Asn Ser Val Met Ala Trp Tyr Arg Gln Thr Pro Gly
50 55 60

Lys Gln Arg Glu Phe Val Ala Ile Ile Asn Ser Val Gly Ser Thr Asn
65 70 75 80

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Thr Val Tyr Leu Gln Met Asn Asn Leu Lys Pro Glu Asp Thr
100 105 110

Ala Val Tyr Val Cys Asn Arg Asn Phe Asp Arg Ile Tyr Trp Gly Gln
115 120 125

```
Gly Thr Gln Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
145                 150                 155                 160

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                165                 170                 175

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            180                 185                 190

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        195                 200                 205

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    210                 215                 220

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
225                 230                 235                 240

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                245                 250                 255

Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro
            260                 265                 270

Ala Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu Pro Gln Thr His
        275                 280                 285

Asn Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg
    290                 295                 300

Leu Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro
305                 310                 315                 320

Gln Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro
                325                 330                 335

Val Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys
            340                 345                 350
```

```
Asp Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn
        355                 360                 365

Asp Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln
    370                 375                 380

Val Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala
385                 390                 395                 400

Val Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys
                405                 410                 415

His Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala
            420                 425                 430

Leu Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser
        435                 440                 445

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val
    450                 455                 460

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu
465                 470                 475                 480

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met
                485                 490                 495

Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser
            500                 505                 510

Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly
        515                 520                 525

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln
    530                 535                 540

Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile
545                 550                 555                 560
```

```
Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser
                565                 570                 575


Ser His His His His His His Glu Pro Glu Ala
            580                 585


<210> 176
<211> 587
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 176
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            20                  25                  30


Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        35                  40                  45


Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
    50                  55                  60


Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65                  70                  75                  80


Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
                85                  90                  95


Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
            100                 105                 110


Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
        115                 120                 125


Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    130                 135                 140
```

```
Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn
145                 150                 155                 160

Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu
                165                 170                 175

Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln
            180                 185                 190

Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val
        195                 200                 205

Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp
    210                 215                 220

Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp
225                 230                 235                 240

Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val
                245                 250                 255

Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val
            260                 265                 270

Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His
        275                 280                 285

Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu
    290                 295                 300

Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly
305                 310                 315                 320

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln
                325                 330                 335

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
            340                 345                 350

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
```

```
        355                 360                 365

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
    370                 375                 380

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
385                 390                 395                 400

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
                405                 410                 415

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
            420                 425                 430

Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
        435                 440                 445

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
    450                 455                 460

Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Ala Gln Ala Gly Gly Ser
465                 470                 475                 480

Leu Ser Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Asn Ser Val
                485                 490                 495

Met Ala Trp Tyr Arg Gln Thr Pro Gly Lys Gln Arg Glu Phe Val Ala
            500                 505                 510

Ile Ile Asn Ser Val Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly
        515                 520                 525

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu Gln
    530                 535                 540

Met Asn Asn Leu Lys Pro Glu Asp Thr Ala Val Tyr Val Cys Asn Arg
545                 550                 555                 560

Asn Phe Asp Arg Ile Tyr Trp Gly Gln Gly Thr Gln Val Thr Val Ser
                565                 570                 575
```

Ser His His His His His His Glu Pro Glu Ala
580 585

<210> 177
<211> 458
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 177
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
65 70 75 80

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
85 90 95

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
100 105 110

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Cys Asp Leu Pro Gln Thr His Asn
145 150 155 160

```
Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu
                165                 170                 175

Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln
            180                 185                 190

Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val
        195                 200                 205

Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp
    210                 215                 220

Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp
225                 230                 235                 240

Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val
                245                 250                 255

Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val
            260                 265                 270

Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His
        275                 280                 285

Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu
    290                 295                 300

Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Gly Gly
305                 310                 315                 320

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln
                325                 330                 335

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
            340                 345                 350

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
        355                 360                 365
```

```
Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
    370                 375                 380

Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
385                 390                 395                 400

Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
                405                 410                 415

Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
            420                 425                 430

Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
        435                 440                 445

His His His His His His Glu Pro Glu Ala
    450                 455
```

<210> 178
<211> 579
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 178

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80
```

```
Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly
145                 150                 155                 160

Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
        275                 280                 285

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
    290                 295                 300

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly
305                 310                 315                 320

Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu
                325                 330                 335

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            340                 345                 350

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        355                 360                 365

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    370                 375                 380

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
385                 390                 395                 400

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                405                 410                 415

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            420                 425                 430

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    450                 455                 460

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
465                 470                 475                 480

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                485                 490                 495

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            500                 505                 510
```

```
Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        515                 520                 525

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
    530                 535                 540

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
545                 550                 555                 560

Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His Glu
                565                 570                 575

Pro Glu Ala
```

<210> 179
<211> 579
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 179

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95
```

```
Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Pro
145                 150                 155                 160

Gly Gly Pro Ala Gly Ile Gly Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
        275                 280                 285

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Pro
305                 310                 315                 320

Gly Gly Pro Ala Gly Ile Gly Pro Gly Ser Glu Val Gln Leu Val Glu
                325                 330                 335

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            340                 345                 350

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        355                 360                 365

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    370                 375                 380

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
385                 390                 395                 400

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                405                 410                 415

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            420                 425                 430

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    450                 455                 460

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
465                 470                 475                 480

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                485                 490                 495

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            500                 505                 510

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        515                 520                 525
```

```
Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
    530                 535                 540

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
545                 550                 555                 560

Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His Glu
                565                 570                 575

Pro Glu Ala
```

<210> 180
<211> 579
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 180

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
```

```
            100                 105                 110

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala
145                 150                 155                 160

Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu
                165                 170                 175

Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys
            180                 185                 190

Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg
        195                 200                 205

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser
    210                 215                 220

Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile
225                 230                 235                 240

Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu
                245                 250                 255

Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu
            260                 265                 270

Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
        275                 280                 285

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala
305                 310                 315                 320
```

```
Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu
                325                 330                 335

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
            340                 345                 350

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
        355                 360                 365

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
    370                 375                 380

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
385                 390                 395                 400

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
                405                 410                 415

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
            420                 425                 430

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
    450                 455                 460

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
465                 470                 475                 480

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
                485                 490                 495

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
            500                 505                 510

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
        515                 520                 525

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
```

```
    530                 535                 540

Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe
545                 550                 555                 560

Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His His Glu
                565                 570                 575

Pro Glu Ala
```

<210> 181
<211> 581
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 181

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110
```

```
Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Pro
145                 150                 155                 160

Leu Ala Gln Lys Leu Lys Ser Ser Pro Gly Ser Glu Val Gln Leu Val
                165                 170                 175

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
            180                 185                 190

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
        195                 200                 205

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
    210                 215                 220

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
225                 230                 235                 240

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
                245                 250                 255

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
            260                 265                 270

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
        275                 280                 285

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
    290                 295                 300

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro
305                 310                 315                 320

Pro Leu Ala Gln Lys Leu Lys Ser Ser Pro Gly Ser Glu Val Gln Leu
                325                 330                 335
```

```
Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            340                 345                 350

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        355                 360                 365

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    370                 375                 380

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
385                 390                 395                 400

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                405                 410                 415

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            420                 425                 430

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        435                 440                 445

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    450                 455                 460

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
465                 470                 475                 480

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
                485                 490                 495

Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
            500                 505                 510

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
        515                 520                 525

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    530                 535                 540
```

```
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
545                 550                 555                 560


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His
                565                 570                 575


His Glu Pro Glu Ala
            580


<210> 182
<211> 613
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 182
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15


Leu Arg Gly Ala Arg Cys Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
            20                  25                  30


Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
        35                  40                  45


Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
    50                  55                  60


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
65                  70                  75                  80


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
                85                  90                  95


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
            100                 105                 110


Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
        115                 120                 125
```

```
Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
    130                 135                 140

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly Pro Pro
145                 150                 155                 160

Gly Gly Pro Ala Gly Ile Gly Ala Leu Phe Lys Ser Ser Phe Pro Pro
                165                 170                 175

Leu Ala Gln Lys Leu Lys Ser Ser Pro Gly Ser Glu Val Gln Leu Val
            180                 185                 190

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser
        195                 200                 205

Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val
    210                 215                 220

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly
225                 230                 235                 240

Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr
                245                 250                 255

Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser
            260                 265                 270

Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser
        275                 280                 285

Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
    290                 295                 300

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
305                 310                 315                 320

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro
                325                 330                 335

Pro Gly Gly Pro Ala Gly Ile Gly Ala Leu Phe Lys Ser Ser Phe Pro
```

```
            340                 345                 350

Pro Leu Ala Gln Lys Leu Lys Ser Ser Pro Gly Ser Glu Val Gln Leu
        355                 360                 365

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
    370                 375                 380

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
385                 390                 395                 400

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
                405                 410                 415

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
            420                 425                 430

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
        435                 440                 445

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
    450                 455                 460

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
465                 470                 475                 480

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                485                 490                 495

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
            500                 505                 510

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
        515                 520                 525

Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
    530                 535                 540

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
545                 550                 555                 560
```

```
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
                565                 570                 575


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
            580                 585                 590


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His
        595                 600                 605


His Glu Pro Glu Ala
    610
```

<210> 183

<400> 183
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<210> 184

<400> 184
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<210> 185

<400> 185
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<210> 186

<400> 186
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<210> 187

<400> 187
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<210> 188

<400> 188
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<210> 189

<400> 189
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<210> 190

<400> 190
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<210> 191
<211> 267
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 191
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly
20 25 30

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
35 40 45

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
50 55 60

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
65 70 75 80

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
85 90 95

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
115 120 125

```
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
145                 150                 155                 160

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                165                 170                 175

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
            180                 185                 190

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        195                 200                 205

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    210                 215                 220

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
225                 230                 235                 240

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                245                 250                 255

Lys Val Glu Ile Lys His His His His His His
            260                 265
```

<210> 192
<211> 269
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 192

```
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1               5                   10                  15

Leu Arg Gly Ala Arg Cys Gln Ser Val Leu Thr Gln Pro Pro Ser Val
            20                  25                  30
```

```
Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
        35                  40                  45

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
    50                  55                  60

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
65                  70                  75                  80

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
                85                  90                  95

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
            100                 105                 110

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
        115                 120                 125

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    130                 135                 140

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
145                 150                 155                 160

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr
        195                 200                 205

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
    210                 215                 220

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
```

```
                245                 250                 255


Thr Met Val Thr Val Ser Ser His His His His His His
            260                 265


<210> 193
<211> 171
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 193
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1               5                   10                  15


Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30


Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35                  40                  45


Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60


Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80


Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95


Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100                 105                 110


Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125


Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130                 135                 140
```

```
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160


Leu Arg Ser Lys Glu His His His His His His
                165                 170


<210> 194
<211> 520
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 194
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80


Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95


Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110


Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125


Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140
```

```
Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
```

```
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala His His His His His His
        515                 520


<210> 195
<211> 141
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 195
```

```
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser Ser Val
            20                  25                  30


Tyr Asp Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Asp Arg Glu Phe
        35                  40                  45


Val Ala Arg Ile Thr Glu Ser Ala Arg Asn Thr Arg Tyr Ala Asp Ser
    50                  55                  60


Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val
65                  70                  75                  80


Tyr Leu Gln Met Asn Asn Leu Glu Leu Glu Asp Ala Ala Val Tyr Tyr
                85                  90                  95


Cys Ala Ala Asp Pro Gln Thr Val Val Val Gly Thr Pro Asp Tyr Trp
            100                 105                 110


Gly Gln Gly Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr
        115                 120                 125


Asp Val Pro Asp Tyr Gly Ser His His His His His His
    130                 135                 140


<210> 196
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 196
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
            20                  25                  30
```

```
Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
```

245

<210> 197
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 197
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

```
His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 198
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 198
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80
```

```
Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Ala Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val
                165                 170                 175

Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 199
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 199

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                  10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205
```

```
Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 200
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 200

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125
```

```
Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 201
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 201

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Gln
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45
```

```
Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Glu Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 202
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 202
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Gln
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Ser Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

```
Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 203
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 203
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95
```

```
His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 204
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 204
```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
```

```
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220
```

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 205
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 205
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

```
Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 206
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 206
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
```

```
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245

<210> 207
<211> 247
<212> PRT
```

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 207
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asp
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

```
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 208
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 208
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Glu
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
```

```
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 209
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 209
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15
```

```
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240
```

Ser His His His His His His
245

<210> 210
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 210
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Asp Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met

145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
195 200 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
210 215 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 211
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 211
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Glu Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

```
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 212
<211> 247
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 212
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Asp Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln

195 200 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
210 215 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 213
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 213
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Glu Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140


Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 214
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 214
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30
```

```
Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Asp Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
```

245

<210> 215
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 215
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Glu Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

```
His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 216
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 216
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80
```

```
Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

Asp Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 217
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 217
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Glu Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Glu Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
195 200 205

```
Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 218
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 218

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Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
            20                  25                  30

Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125
```

```
Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140


Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 219
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 219
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45
```

```
Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Glu Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 220
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 220
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Glu Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

```
Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 221
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 221
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95
```

```
His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 222
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 222
```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
```

```
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Glu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220
```

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 223
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 223
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

```
Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Asp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 224
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 224
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
```

```
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Asp Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245

<210> 225
<211> 247
<212> PRT
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<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 225
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Glu Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

```
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 226
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 226
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
```

```
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Glu Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 227
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 227
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15
```

```
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser Glu Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240
```

Ser His His His His His His
245

<210> 228
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 228
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met

```
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Glu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Glu Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 229
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 229
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60
```

```
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Glu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Glu Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser Glu Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 230
<211> 247
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 230
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln

195 200 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
210 215 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 231
<211> 306
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 231
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser
305
```

<210> 232
<211> 137

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 232
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Glu Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Thr Lys Asp Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 233
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 233
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Glu Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Ala Glu Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Thr Leu
65 70 75 80

Gln Met Asn Asp Leu Lys Pro Glu Asp Thr Ala Ser Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 234
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 234
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn

```
            20                  25                  30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125

Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 235
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 235
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245
```

<210> 236
<211> 138

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 236
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
20 25 30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
85 90 95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
115 120 125

Asp Tyr Gly Ser His His His His His His
130 135

<210> 237
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 237
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
20 25 30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
35 40 45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
85 90 95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
115 120 125

Asp Tyr Gly Ser His His His His His His
130 135

<210> 238
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 238
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn

```
            20                  25                  30

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125

Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 239
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 239
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45
```

```
Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125

Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 240
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 240
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80
```

```
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95


Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125


Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 241
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 241
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30


Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95


Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110
```

```
Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125


Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 242
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 242
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30


Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45


Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95


Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125


Tyr Gly Ser His His His His His His
```

130 135

<210> 243
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 243
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
35 40 45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 244
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 244
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 245
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 245

```
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30


Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45


Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95


Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125


Tyr Gly Ser His His His His His His
    130                 135


<210> 246
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 246
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30
```

```
Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Arg Glu Leu Val
        35                  40                  45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135
```

<210> 247
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 247

```
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Glu Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30

Val Met Gly Trp Tyr Arg Gln Ala Ala Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
    50                  55                  60
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ser Tyr Tyr Cys Tyr
                85                  90                  95


Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125


Tyr Gly Ser His His His His His His
    130                 135


<210> 248
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 248
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30


Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35                  40                  45


Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
```

```
                85                  90                  95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135
```

<210> 249
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 249

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110
```

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115   120   125

Tyr Gly Ser His His His His His His
    130   135

<210> 250
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 250
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20   25   30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35   40   45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50   55   60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65   70   75   80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85   90   95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100   105   110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115   120   125

Tyr Gly Ser His His His His His His
    130   135

<210> 251
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 251
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 252
<211> 137
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 252
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 253
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 253
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

```
Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Met Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135


<210> 254
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 254
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Arg Glu Leu Val
```

```
        35                  40                  45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Met Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135


<210> 255
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 255
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95


Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125


Tyr Gly Ser His His His His His His
    130                 135


<210> 256
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 256
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30


Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Met Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95
```

```
Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125


Tyr Gly Ser His His His His His His
    130                 135


<210> 257
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 257
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110


Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125
```

```
Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys
145                 150                 155                 160

Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245
```

<210> 258
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 258

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
```

```
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys
145                 150                 155                 160

Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245
```

<210> 259
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 259
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
130 135 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys
145 150 155 160

Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
165 170 175

```
Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser
            180                 185                 190


Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205


Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220


Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240


His His His His His
                245


<210> 260
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 260
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
```

```
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Glu Lys
145                 150                 155                 160

Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245
```

<210> 261
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 261

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Glu Lys
145                 150                 155                 160

Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220
```

```
Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240


His His His His His
                245


<210> 262
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 262
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15


Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
            20                  25                  30


Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
        35                  40                  45


Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110


Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125


Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
```

```
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210


<210> 263
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 263
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15

Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
            20                  25                  30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35                  40                  45

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
```

```
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210
```

<210> 264
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 264

```
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15

Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
            20                  25                  30
```

```
Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
        35                  40                  45

Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210
```

<210> 265
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 265

```
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                  10                  15


Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
            20                  25                  30


Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35                  40                  45


Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110


Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125


Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140


Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160


Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175


Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190
```

```
Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
                245                 250                 255

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
            260                 265                 270

Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln
        275                 280                 285

Arg Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
    290                 295                 300

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
305                 310                 315                 320

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                325                 330                 335

Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
            340                 345                 350

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        355                 360


<210> 266
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
```

<400> 266
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
35 40 45

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser

```
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
                245                 250                 255

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
            260                 265                 270

Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly
        275                 280                 285

Leu Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
    290                 295                 300

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
305                 310                 315                 320

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                325                 330                 335

Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
            340                 345                 350

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        355                 360


<210> 267
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 267
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15
```

```
Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
            20                  25                  30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
        35                  40                  45

Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240
```

```
Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
                245                 250                 255


Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
            260                 265                 270


Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln
        275                 280                 285


Arg Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
    290                 295                 300


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
305                 310                 315                 320


Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                325                 330                 335


Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
            340                 345                 350


Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        355                 360


<210> 268
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 268
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15


Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
            20                  25                  30


Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
```

```
        35                  40                  45

Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
                245                 250                 255
```

```
Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
            260                 265                 270


Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly
        275                 280                 285


Leu Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
    290                 295                 300


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
305                 310                 315                 320


Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                325                 330                 335


Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
            340                 345                 350


Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        355                 360


<210> 269
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 269
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15


Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Glu Lys Leu Trp Ala Asn
            20                  25                  30


Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35                  40                  45


Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
```

```
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210


<210> 270
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 270
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
```

```
1               5                   10                  15

Asp Arg Val Thr Ile Thr Cys Lys Ser Ser Glu Lys Leu Trp Ala Asn
            20                  25                  30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys
    210
```

<210> 271
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 271
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

```
Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190


Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205


Phe Asn Arg Gly Glu Cys
    210


<210> 272
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 272
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
```

```
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ser Ser Glu Lys Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
```

545

<210> 273
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 273
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

```
Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380
```

```
Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400


Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415


Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430


Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ser Ser Glu Lys Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 274
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
```

polypeptide"

<400> 274

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                  10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205
```

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
```

```
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ser Ser Glu Lys Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 275
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 275

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255
```

```
Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460
```

```
Ser Ser Glu Lys Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 276
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 276
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
```

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    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ser Ser Glu Lys Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510
```

```
Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 277
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 277
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125
```

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ser Ser Glu Lys Leu Trp Ala Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 278
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 278
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr

```
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380
```

```
Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400


Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415


Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
            420                 425                 430


Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 279
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
```

<400> 279
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1   5   10   15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20   25   30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35   40   45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50   55   60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65   70   75   80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85   90   95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100   105   110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115   120   125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130   135   140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145   150   155   160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165   170   175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180   185   190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195   200   205

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430
```

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
435 440 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
450 455 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465 470 475 480

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
485 490 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
500 505 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
515 520 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
530 535 540

Glu Ile Lys
545

<210> 280
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 280
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys

```
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255
```

```
Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
```

```
465                 470                 475                 480

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 281
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 281

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130                 135                 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300
```

```
Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510
```

```
Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 282
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 282
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125
```

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130                 135                 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
```

```
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 283
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 283
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
130 135 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
165 170 175

```
Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380
```

```
Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400


Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415


Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430


Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 284
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 284
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1   5   10   15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20   25   30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35   40   45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50   55   60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65   70   75   80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85   90   95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100   105   110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115   120   125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130   135   140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145   150   155   160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165   170   175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180   185   190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195   200   205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys

```
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 285
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 285
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45
```

```
Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130                 135                 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255
```

```
Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480
```

```
Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 286
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 286
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
```

```
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130                 135                 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300
```

```
Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
            420                 425                 430

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
        435                 440                 445

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
    450                 455                 460

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
465                 470                 475                 480

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
                485                 490                 495

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
            500                 505                 510

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
```

515 520 525

<210> 287
<211> 642
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 287
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                405                 410                 415

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
    530                 535                 540

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
545                 550                 555                 560

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
                565                 570                 575

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
            580                 585                 590
```

```
Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
        595                 600                 605


Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
    610                 615                 620


Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys
625                 630                 635                 640


Ser Cys



<210> 288
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 288
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60


Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80


Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95


Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110
```

```
Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
```

```
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                405                 410                 415

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560


Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575


Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590


Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605


Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620


Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 289
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 289
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45
```

```
Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255
```

```
Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                405                 410                 415

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480
```

```
Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
        595                 600                 605

Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys
            660
```

<210> 290
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 290
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
180 185 190

```
Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
```

```
                405                 410                 415

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Cys Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620
```

```
Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 291
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 291
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60


Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80


Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95


Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110


Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125
```

```
Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335
```

```
Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                405                 410                 415

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560
```

```
Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575


Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590


Lys Pro Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605


Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620


Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 292
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 292
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
```

```
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270
```

```
Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                405                 410                 415

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Cys Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
```

485 490 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
500 505 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
515 520 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
530 535 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545 550 555 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
565 570 575

Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
580 585 590

Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
595 600 605

Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
610 615 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625 630 635 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr
645 650 655

Lys Val Glu Ile Lys
660

<210> 293
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 293

```
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                  10                  15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205
```

```
Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
225                 230                 235                 240

Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                405                 410                 415
```

```
Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
        595                 600                 605

Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640
```

```
Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 294
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 294
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15


Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30


Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45


Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60


His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80


Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95


Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110


Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125


Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
```

```
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350
```

```
Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
                405                 410                 415

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
```

```
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 295
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 295

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60
```

```
His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285
```

```
Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
                405                 410                 415

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495
```

```
Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 296
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 296
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1   5   10   15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20   25   30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35   40   45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50   55   60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65   70   75   80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85   90   95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100   105   110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115   120   125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130   135   140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145   150   155   160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165   170   175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180   185   190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195   200   205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser

```
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
                405                 410                 415

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430
```

```
Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
```

645 650 655

Glu Ile Lys

<210> 297
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 297
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

```
Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365
```

```
Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
                405                 410                 415

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575
```

```
Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 298
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 298

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80
```

```
Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
```

```
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
                405                 410                 415

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510
```

```
Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 299
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 299

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15
```

```
Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220
```

```
Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
                405                 410                 415

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655
```

Glu Ile Lys

<210> 300
<211> 662
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 300
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
1 5 10 15

Leu Arg Gly Ala Arg Cys Val Pro Arg Asp Cys Gly Cys Lys Pro Cys
20 25 30

Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys
35 40 45

Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val
50 55 60

Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe
65 70 75 80

Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu
85 90 95

Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His
100 105 110

Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala
115 120 125

Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg
130 135 140

Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met
145 150 155 160

```
Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro
                165                 170                 175

Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn
            180                 185                 190

Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val
        195                 200                 205

Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr
    210                 215                 220

Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu
225                 230                 235                 240

Lys Ser Leu Ser His Ser Pro Gly Lys Ser Gly Gly Pro Ala Leu Phe
                245                 250                 255

Lys Ser Ser Phe Pro Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
```

```
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                405                 410                 415

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala
            420                 425                 430

Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu
        435                 440                 445

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
    450                 455                 460

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
465                 470                 475                 480

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
                485                 490                 495

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
            500                 505                 510

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
        515                 520                 525

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
    530                 535                 540

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala
545                 550                 555                 560

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
                565                 570                 575

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
            580                 585                 590
```

```
Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
        595                 600                 605


Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
    610                 615                 620


Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
625                 630                 635                 640


Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg
                645                 650                 655


Val Glu Pro Lys Ser Cys
            660


<210> 301
<211> 214
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 301
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15


Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
            20                  25                  30


Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
        35                  40                  45


Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
                85                  90                  95
```

```
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110


Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125


Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140


Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160


Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175


Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190


Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205


Phe Asn Arg Gly Glu Cys
    210


<210> 302
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 302
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
```

```
        35                  40                  45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255
```

```
Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Cys Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
```

```
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys
            660
```

<210> 303
<211> 661
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 303
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
180 185 190

```
Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400
```

```
Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620
```

```
Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 304
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 304
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60


Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80


Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95


Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110


Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
```

```
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335
```

```
Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Cys Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
```

```
545                 550                 555                 560


Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575


Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590


Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605


Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620


Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 305
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 305
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45
```

```
Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270
```

```
Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480
```

```
Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys
            660
```

<210> 306
<211> 661
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 306
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
180 185 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser

```
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415
```

```
Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Cys Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
        595                 600                 605

Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
```

625 630 635 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr
645 650 655

Lys Val Glu Ile Lys
660

<210> 307
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 307
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

```
Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350
```

```
Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560
```

```
Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575


Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
            580                 585                 590


Lys Pro Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
        595                 600                 605


Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620


Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660
```

<210> 308
<211> 541
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 308

```
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60
```

```
Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
```

```
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Ser Ile Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gln Arg Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn
465                 470                 475                 480

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
                485                 490                 495
```

```
Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510


Ala Val Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn
        515                 520                 525


Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535                 540


<210> 309
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 309
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125
```

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 310
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 310
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr

```
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Cys Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg
```

595 600 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
610 615 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625 630 635 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr
645 650 655

Lys Val Glu Ile Lys
660

<210> 311
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 311
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

```
Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320
```

```
Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335

Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525
```

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720

Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
                725                 730                 735

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
            740                 745                 750
```

```
Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800


Thr Phe Gly Cys Gly Thr Lys Val Glu Ile Lys
                805                 810


<210> 312
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 312
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
```

```
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320
```

```
Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335

Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720

Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
                725                 730                 735

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Cys Pro Lys Ala Leu Ile
            740                 745                 750
```

```
Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
                805                 810


<210> 313
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 313
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320
```

```
Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335

Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720

Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
                725                 730                 735

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
            740                 745                 750
```

```
Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800


Thr Phe Gly Cys Gly Thr Lys Val Glu Ile Lys
                805                 810


<210> 314
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 314
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320

Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
```

```
                325                 330                 335

Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720

Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
                725                 730                 735

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Cys Pro Ile Ser Leu Ile
            740                 745                 750

Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
```

```
        755                 760                 765

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
                805                 810
```

<210> 315
<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 315

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320

Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335
```

```
Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560


Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575


Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590


Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn Ala Met Gly Trp
        595                 600                 605


Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala Val Ile Ser
    610                 615                 620


Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
625                 630                 635                 640


Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser
                645                 650                 655


Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met Tyr Ser Gly Ser
            660                 665                 670


Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
        675                 680                 685


Val Ser Ser
    690


<210> 316
<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 316
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15
```

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
```

```
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320

Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335

Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445
```

```
Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn Ala Met Gly Trp
        595                 600                 605

Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val Ala Val Ile Ser
    610                 615                 620

Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met Tyr Ser Gly Ser
```

660 665 670

Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
675 680 685

Val Ser Ser
690

<210> 317
<211> 792
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 317
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320

Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335

Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350
```

```
Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560
```

```
Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
    690                 695                 700

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
705                 710                 715                 720

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
                725                 730                 735

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
            740                 745                 750

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
        755                 760                 765

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
    770                 775                 780
```

Lys Arg Val Glu Pro Lys Ser Cys
785 790

<210> 318
<211> 676
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 318
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
35 40 45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
130 135 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys

```
145                 150                 155                 160

Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val Glu Ile Lys Ser
225                 230                 235                 240

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        275                 280                 285

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
    290                 295                 300

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
305                 310                 315                 320

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
                325                 330                 335

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
            340                 345                 350

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
        355                 360                 365
```

```
Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
    370                 375                 380

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
385                 390                 395                 400

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Thr Phe
                405                 410                 415

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
            420                 425                 430

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
        435                 440                 445

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
    450                 455                 460

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
465                 470                 475                 480

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
                485                 490                 495

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Ser Ser Ser
            500                 505                 510

Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln
        515                 520                 525

Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg
    530                 535                 540

Met Leu Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
545                 550                 555                 560

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
                565                 570                 575

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
```

```
            580                 585                 590

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        595                 600                 605

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
    610                 615                 620

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
625                 630                 635                 640

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
                645                 650                 655

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
            660                 665                 670

Thr Val Ser Ser
        675


<210> 319
<211> 676
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 319
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys
145                 150                 155                 160

Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Cys Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Ser
225                 230                 235                 240

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        275                 280                 285
```

```
Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
    290                 295                 300

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
305                 310                 315                 320

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
                325                 330                 335

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
            340                 345                 350

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
        355                 360                 365

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
    370                 375                 380

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
385                 390                 395                 400

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Thr Phe
                405                 410                 415

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
            420                 425                 430

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
        435                 440                 445

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
    450                 455                 460

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
465                 470                 475                 480

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
                485                 490                 495
```

```
Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Ser Ser Ser
            500                 505                 510

Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln
        515                 520                 525

Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg
    530                 535                 540

Met Leu Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
545                 550                 555                 560

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
                565                 570                 575

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
            580                 585                 590

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        595                 600                 605

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
    610                 615                 620

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
625                 630                 635                 640

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
                645                 650                 655

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
            660                 665                 670

Thr Val Ser Ser
        675
```

<210> 320
<211> 676
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 320
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val
35 40 45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
130 135 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys
145 150 155 160

Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
165 170 175

Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser
180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser

```
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val Glu Ile Lys Ser
225                 230                 235                 240

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        275                 280                 285

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
    290                 295                 300

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
305                 310                 315                 320

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
                325                 330                 335

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
            340                 345                 350

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
        355                 360                 365

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
    370                 375                 380

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
385                 390                 395                 400

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Thr Phe
                405                 410                 415
```

```
Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
            420                 425                 430

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
        435                 440                 445

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
    450                 455                 460

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
465                 470                 475                 480

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
                485                 490                 495

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Ser Ser Ser
            500                 505                 510

Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln
        515                 520                 525

Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg
    530                 535                 540

Met Leu Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
545                 550                 555                 560

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
                565                 570                 575

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
            580                 585                 590

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        595                 600                 605

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
    610                 615                 620

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
```

625 630 635 640

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
645 650 655

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
660 665 670

Thr Val Ser Ser
675

<210> 321
<211> 676
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 321
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly Thr Thr
100 105 110

```
Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys
145                 150                 155                 160

Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Cys Pro
                165                 170                 175

Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Ser
225                 230                 235                 240

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        275                 280                 285

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
    290                 295                 300

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
305                 310                 315                 320

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
                325                 330                 335
```

```
Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
            340                 345                 350

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
        355                 360                 365

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
    370                 375                 380

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
385                 390                 395                 400

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Thr Phe
                405                 410                 415

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
            420                 425                 430

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
        435                 440                 445

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
    450                 455                 460

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
465                 470                 475                 480

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
                485                 490                 495

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Ser Ser Ser
            500                 505                 510

Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln
        515                 520                 525

Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg
    530                 535                 540
```

```
Met Leu Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
545                 550                 555                 560


Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
                565                 570                 575


Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
            580                 585                 590


Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        595                 600                 605


Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
    610                 615                 620


Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
625                 630                 635                 640


Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
                645                 650                 655


Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
            660                 665                 670


Thr Val Ser Ser
        675


<210> 322
<211> 556
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 322
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30
```

```
Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
        115                 120                 125

Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
145                 150                 155                 160

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
                165                 170                 175

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            180                 185                 190

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
        195                 200                 205

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
    210                 215                 220

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
225                 230                 235                 240

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
```

```
                245                 250                 255

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
            260                 265                 270

Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
        275                 280                 285

Tyr Ala Gln Pro Gly Ser Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
    290                 295                 300

Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
305                 310                 315                 320

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
                325                 330                 335

Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
            340                 345                 350

Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
        355                 360                 365

Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
    370                 375                 380

Thr Leu Thr Gly Gly Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
385                 390                 395                 400

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
                405                 410                 415

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Ser Gly Gly Pro Gly Pro
            420                 425                 430

Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser
        435                 440                 445

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
    450                 455                 460
```

```
Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln
465                 470                 475                 480


Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly
                485                 490                 495


Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser
            500                 505                 510


Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
        515                 520                 525


Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser
    530                 535                 540


Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
545                 550                 555


<210> 323
<211> 556
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 323
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30


Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80
```

```
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
        115                 120                 125

Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    130                 135                 140

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
145                 150                 155                 160

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
                165                 170                 175

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            180                 185                 190

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
        195                 200                 205

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
    210                 215                 220

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
225                 230                 235                 240

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
                245                 250                 255

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
            260                 265                 270

Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
        275                 280                 285
```

```
Tyr Ala Gln Pro Gly Ser Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
    290                 295                 300

Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
305                 310                 315                 320

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
                325                 330                 335

Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
            340                 345                 350

Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
        355                 360                 365

Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
    370                 375                 380

Thr Leu Thr Gly Gly Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
385                 390                 395                 400

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
                405                 410                 415

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Ser Gly Gly Pro Gly Pro
            420                 425                 430

Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser
        435                 440                 445

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
    450                 455                 460

Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln
465                 470                 475                 480

Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly
                485                 490                 495

Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser
            500                 505                 510
```

```
Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
        515                 520                 525


Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser
    530                 535                 540


Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
545                 550                 555


<210> 324
<211> 657
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 324
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110


Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
```

```
        115                 120                 125

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
    130                 135                 140

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145                 150                 155                 160

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
                165                 170                 175

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
            180                 185                 190

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
        195                 200                 205

Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Ser Gly Gly Pro
    210                 215                 220

Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser
225                 230                 235                 240

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                245                 250                 255

Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser
            260                 265                 270

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
        275                 280                 285

Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln
    290                 295                 300

Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly
305                 310                 315                 320

Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser
                325                 330                 335
```

```
Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
            340                 345                 350

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser
        355                 360                 365

Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser Gly Gly Pro
    370                 375                 380

Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Thr Phe Lys Phe Tyr
385                 390                 395                 400

Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu
                405                 410                 415

Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn
            420                 425                 430

Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val
        435                 440                 445

Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp
    450                 455                 460

Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys
465                 470                 475                 480

Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Ser Ser Ser Thr Lys Lys
                485                 490                 495

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
            500                 505                 510

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Ser
        515                 520                 525

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
    530                 535                 540

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu
```

545 550 555 560

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met
565 570 575

Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser
580 585 590

Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly
595 600 605

Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln
610 615 620

Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile
625 630 635 640

Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser
645 650 655

Ser

<210> 325
<211> 640
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 325
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

```
Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270
```

```
Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480
```

```
Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
    530                 535                 540

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
545                 550                 555                 560

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
                565                 570                 575

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
            580                 585                 590

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
        595                 600                 605

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
    610                 615                 620

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
625                 630                 635                 640
```

<210> 326
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 326

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15
```

```
Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
```

225 230 235 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
245 250 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
260 265 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
275 280 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
290 295 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305 310 315 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
325 330 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
340 345 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
355 360 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
370 375 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385 390 395 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
405 410 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
420 425 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
435 440 445

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 327
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 327
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

```
Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590
```

```
Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
                645                 650                 655


Glu Ile Lys



<210> 328
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 328
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15


Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30


Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45


Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60


His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80


Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95
```

```
Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
```

```
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525
```

```
Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 329
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 329

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30
```

```
Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240
```

```
Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
    450                 455                 460
```

```
Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 330
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 330
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
165 170 175

```
Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
```

```
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
        595                 600                 605
```

```
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 331
<211> 539
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 331

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110
```

```
Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320
```

```
His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
        435                 440                 445

Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln
    450                 455                 460

Arg Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
465                 470                 475                 480

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                485                 490                 495

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535
```

<210> 332
<211> 463
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 332
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu

```
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
                245                 250                 255

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
            260                 265                 270

Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys
        275                 280                 285

Pro Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr
    290                 295                 300

Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
305                 310                 315                 320

Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
                325                 330                 335

Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys
            340                 345                 350

Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
        355                 360                 365

Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
    370                 375                 380
```

```
Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
385                 390                 395                 400


Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
                405                 410                 415


Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
            420                 425                 430


Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
        435                 440                 445


Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
    450                 455                 460


<210> 333
<211> 463
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 333
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1               5                   10                  15


Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
            20                  25                  30


Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
        35                  40                  45


Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
    50                  55                  60


Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65                  70                  75                  80


Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95
```

```
Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
                245                 250                 255

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
            260                 265                 270

Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys
        275                 280                 285

Pro Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys
    290                 295                 300
```

```
Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
305                 310                 315                 320

Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
                325                 330                 335

Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys
            340                 345                 350

Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
        355                 360                 365

Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
    370                 375                 380

Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
385                 390                 395                 400

Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
                405                 410                 415

Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
            420                 425                 430

Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
        435                 440                 445

Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
    450                 455                 460


<210> 334
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 334
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15
```

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
```

```
225                 230                 235                 240

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg
                325                 330                 335

Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            420                 425                 430

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        435                 440                 445
```

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
    450                 455                 460

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
465                 470                 475                 480

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
                485                 490                 495

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
            500                 505                 510

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
        515                 520                 525

Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
    530                 535                 540

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
545                 550                 555                 560

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
                565                 570                 575

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
            580                 585                 590

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
        595                 600                 605

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
    610                 615                 620

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
625                 630                 635                 640

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
                645                 650                 655

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
```

660 665 670

Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly Pro Gly Pro Ala
675 680 685

Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
690 695 700

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
705 710 715 720

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
725 730 735

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
740 745 750

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
755 760 765

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
770 775 780

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
785 790 795 800

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
805 810

<210> 335
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 335
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240
```

```
Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg
                325                 330                 335

Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            420                 425                 430

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        435                 440                 445
```

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
    450                 455                 460

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
465                 470                 475                 480

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
                485                 490                 495

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
            500                 505                 510

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
        515                 520                 525

Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
    530                 535                 540

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
545                 550                 555                 560

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
                565                 570                 575

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
            580                 585                 590

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
        595                 600                 605

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
    610                 615                 620

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
625                 630                 635                 640

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
                645                 650                 655

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
            660                 665                 670
```

```
Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly Pro Gly Pro Ala
        675                 680                 685

Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
    690                 695                 700

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
705                 710                 715                 720

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
                725                 730                 735

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
            740                 745                 750

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
        755                 760                 765

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
    770                 775                 780

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
785                 790                 795                 800

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
                805                 810
```

<210> 336
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 336

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
```

```
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240
```

```
Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr
                325                 330                 335

Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            420                 425                 430

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
```

```
    450                 455                 460

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
465                 470                 475                 480

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
                485                 490                 495

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
            500                 505                 510

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
        515                 520                 525

Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
    530                 535                 540

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
545                 550                 555                 560

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
                565                 570                 575

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
            580                 585                 590

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
        595                 600                 605

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
    610                 615                 620

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
625                 630                 635                 640

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
                645                 650                 655

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
            660                 665                 670
```

```
Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly Pro Gly Pro Ala
        675                 680                 685


Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
    690                 695                 700


Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
705                 710                 715                 720


Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
                725                 730                 735


Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
            740                 745                 750


Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
        755                 760                 765


Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
    770                 775                 780


Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
785                 790                 795                 800


Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
                805                 810


<210> 337
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 337
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240
```

```
Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr
                325                 330                 335

Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            420                 425                 430

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        435                 440                 445

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
    450                 455                 460
```

```
Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
465                 470                 475                 480

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
                485                 490                 495

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
            500                 505                 510

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
        515                 520                 525

Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
    530                 535                 540

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
545                 550                 555                 560

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
                565                 570                 575

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
            580                 585                 590

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
        595                 600                 605

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
    610                 615                 620

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
625                 630                 635                 640

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
                645                 650                 655

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
            660                 665                 670
```

```
Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly Pro Gly Pro Ala
        675                 680                 685


Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
    690                 695                 700


Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
705                 710                 715                 720


Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
                725                 730                 735


Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
            740                 745                 750


Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
        755                 760                 765


Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
    770                 775                 780


Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
785                 790                 795                 800


Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
                805                 810


<210> 338
<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 338
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser
        195                 200                 205

Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu
    210                 215                 220

Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser
225                 230                 235                 240

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val
```

```
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly
        275                 280                 285

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    290                 295                 300

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
305                 310                 315                 320

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile
            340                 345                 350

Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu
        355                 360                 365

Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu
    370                 375                 380

Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln
385                 390                 395                 400

Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr
                405                 410                 415

Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser
            420                 425                 430

Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu
        435                 440                 445

Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val
    450                 455                 460
```

```
Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu
465                 470                 475                 480

His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr
                485                 490                 495

Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser
            500                 505                 510

Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro
        515                 520                 525

Glu Ser Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln
    530                 535                 540

Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr
545                 550                 555                 560

Gln Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
                565                 570                 575

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
            580                 585                 590

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
        595                 600                 605

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
    610                 615                 620

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
625                 630                 635                 640

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
                645                 650                 655

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
```

675 680 685

Val Ser Ser
690

<210> 339
<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 339
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

```
Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser
        195                 200                 205

Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser
225                 230                 235                 240

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly
        275                 280                 285

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    290                 295                 300

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
305                 310                 315                 320

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile
            340                 345                 350

Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu
        355                 360                 365
```

```
Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu
    370                 375                 380

Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln
385                 390                 395                 400

Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr
                405                 410                 415

Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser
            420                 425                 430

Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu
        435                 440                 445

Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val
    450                 455                 460

Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu
465                 470                 475                 480

His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr
                485                 490                 495

Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser
            500                 505                 510

Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro
        515                 520                 525

Glu Ser Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln
    530                 535                 540

Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr
545                 550                 555                 560

Gln Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
                565                 570                 575
```

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
            580                 585                 590


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
        595                 600                 605


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
    610                 615                 620


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
625                 630                 635                 640


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
                645                 650                 655


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
        675                 680                 685


Val Ser Ser
    690


<210> 340
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 340
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
    130                 135                 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
145                 150                 155                 160

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu
                165                 170                 175

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
            180                 185                 190

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
225                 230                 235                 240

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                245                 250                 255

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
```

```
            260                 265                 270

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg
        275                 280                 285

Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
    290                 295                 300

Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
305                 310                 315                 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
                325                 330                 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
            340                 345                 350

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val Glu Ile
        355                 360                 365

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    370                 375                 380

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
385                 390                 395                 400

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
                405                 410                 415

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
            420                 425                 430

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
        435                 440                 445

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
    450                 455                 460

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
465                 470                 475                 480
```

```
Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
                485                 490                 495

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
            500                 505                 510

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
        515                 520                 525

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
    530                 535                 540

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
545                 550                 555                 560

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
                565                 570                 575

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
            580                 585                 590

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
        595                 600                 605

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
    610                 615                 620

Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser Gly Gly
625                 630                 635                 640

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
            660                 665                 670

Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
        675                 680                 685

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
```

690 695 700

Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
705 710 715 720

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
725 730 735

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
740 745 750

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
755 760 765

Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
770 775 780

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
785 790 795 800

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
805 810

<210> 341
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 341
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
    130                 135                 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
145                 150                 155                 160

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
                165                 170                 175

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
            180                 185                 190

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly
225                 230                 235                 240

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                245                 250                 255

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
            260                 265                 270
```

```
Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg
        275                 280                 285

Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
    290                 295                 300

Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
305                 310                 315                 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
                325                 330                 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
            340                 345                 350

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
        355                 360                 365

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    370                 375                 380

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
385                 390                 395                 400

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
                405                 410                 415

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
            420                 425                 430

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
        435                 440                 445

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
    450                 455                 460

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
465                 470                 475                 480
```

```
Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
                485                 490                 495

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
            500                 505                 510

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
        515                 520                 525

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
    530                 535                 540

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
545                 550                 555                 560

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
                565                 570                 575

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
            580                 585                 590

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
        595                 600                 605

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
    610                 615                 620

Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser Gly Gly
625                 630                 635                 640

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
            660                 665                 670

Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
        675                 680                 685

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
    690                 695                 700
```

```
Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
705                 710                 715                 720


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
                725                 730                 735


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
            740                 745                 750


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
        755                 760                 765


Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
    770                 775                 780


Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
785                 790                 795                 800


Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
                805                 810


<210> 342
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 342
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
```

```
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
    130                 135                 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
145                 150                 155                 160

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu
                165                 170                 175

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
            180                 185                 190

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
225                 230                 235                 240

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                245                 250                 255

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
            260                 265                 270
```

```
Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr
        275                 280                 285

Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
    290                 295                 300

Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val
305                 310                 315                 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
                325                 330                 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
            340                 345                 350

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val Glu Ile
        355                 360                 365

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    370                 375                 380

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
385                 390                 395                 400

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
                405                 410                 415

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
            420                 425                 430

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
        435                 440                 445

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
    450                 455                 460

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
465                 470                 475                 480

Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
```

```
                485                 490                 495

Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
            500                 505                 510

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
        515                 520                 525

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
    530                 535                 540

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
545                 550                 555                 560

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
                565                 570                 575

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
            580                 585                 590

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
        595                 600                 605

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
    610                 615                 620

Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser Gly Gly
625                 630                 635                 640

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
            660                 665                 670

Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
        675                 680                 685

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
    690                 695                 700
```

```
Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
705                 710                 715                 720


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
                725                 730                 735


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
            740                 745                 750


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
        755                 760                 765


Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
    770                 775                 780


Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
785                 790                 795                 800


Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
                805                 810


<210> 343
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 343
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
    130                 135                 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
145                 150                 155                 160

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
                165                 170                 175

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
            180                 185                 190

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Cys Gly
225                 230                 235                 240

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                245                 250                 255

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
            260                 265                 270
```

```
Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr
        275                 280                 285

Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
    290                 295                 300

Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val
305                 310                 315                 320

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
                325                 330                 335

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
            340                 345                 350

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
        355                 360                 365

Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    370                 375                 380

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
385                 390                 395                 400

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu
                405                 410                 415

Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys Ala Met
            420                 425                 430

Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg Gly Phe
        435                 440                 445

Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly Asn Ser
    450                 455                 460

Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser Ala Thr
465                 470                 475                 480

Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln Lys Glu
                485                 490                 495
```

```
Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp Gln Ala
            500                 505                 510

Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn Glu Ala
        515                 520                 525

Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr Tyr Gln
    530                 535                 540

Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu Ser Val
545                 550                 555                 560

Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln Leu Ile
                565                 570                 575

Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu Lys Pro
            580                 585                 590

Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser Leu Val
        595                 600                 605

Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr Met Glu
    610                 615                 620

Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser Gly Gly
625                 630                 635                 640

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
            660                 665                 670

Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr
        675                 680                 685

Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn
    690                 695                 700
```

```
Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe
705                 710                 715                 720


Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
                725                 730                 735


Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
            740                 745                 750


Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
        755                 760                 765


Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
    770                 775                 780


Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
785                 790                 795                 800


Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
                805                 810


<210> 344
<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 344
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
    130                 135                 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser
145                 150                 155                 160

Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu
                165                 170                 175

Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser
            180                 185                 190

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly
225                 230                 235                 240

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
        275                 280                 285

Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile
    290                 295                 300

Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu
305                 310                 315                 320

Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu
                325                 330                 335

Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln
            340                 345                 350

Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr
        355                 360                 365

Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser
    370                 375                 380

Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu
385                 390                 395                 400

Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val
                405                 410                 415

Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu
            420                 425                 430

His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr
        435                 440                 445

Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser
    450                 455                 460

Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro
465                 470                 475                 480

Glu Ser Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln
                485                 490                 495
```

```
Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr
            500                 505                 510

Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        515                 520                 525

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
    530                 535                 540

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro
545                 550                 555                 560

Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu
                565                 570                 575

Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro
            580                 585                 590

Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
        595                 600                 605

Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
    610                 615                 620

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
625                 630                 635                 640

Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
                645                 650                 655

Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
            660                 665                 670

Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
        675                 680                 685

Thr Leu Thr
    690
```

<210> 345

<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 345
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro
130 135 140

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser
145 150 155 160

Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu
165 170 175

```
Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser
            180                 185                 190

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val
        195                 200                 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
    210                 215                 220

Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly
225                 230                 235                 240

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        275                 280                 285

Ser Gly Gly Gly Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile
    290                 295                 300

Pro His Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu
305                 310                 315                 320

Asn Cys Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu
                325                 330                 335

Tyr Met Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln
            340                 345                 350

Cys Gln Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr
        355                 360                 365

Pro Gln Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser
    370                 375                 380

Pro Met Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu
385                 390                 395                 400
```

```
Pro Pro Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val
                405                 410                 415

Val Gly Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu
            420                 425                 430

His Arg Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr
        435                 440                 445

Arg Trp Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser
    450                 455                 460

Gln Phe Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro
465                 470                 475                 480

Glu Ser Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln
                485                 490                 495

Thr Glu Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr
            500                 505                 510

Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        515                 520                 525

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
    530                 535                 540

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro
545                 550                 555                 560

Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu
                565                 570                 575

Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro
            580                 585                 590

Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala
        595                 600                 605
```

```
Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu
    610                 615                 620

Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro
625                 630                 635                 640

Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly
                645                 650                 655

Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile
            660                 665                 670

Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser
        675                 680                 685

Thr Leu Thr
    690
```

<210> 346
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 346

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
```

```
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510
```

```
Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu
    610                 615                 620

Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670

Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685

Gly Thr Leu Val Thr Val Ser Ser
    690                 695
```

<210> 347
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 347
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
165 170 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
180 185 190

```
Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415
```

```
Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu
    610                 615                 620
```

```
Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655


Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670


Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685


Gly Thr Leu Val Thr Val Ser Ser
    690                 695


<210> 348
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 348
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95
```

```
Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
```

```
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525
```

```
Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu
    610                 615                 620

Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670

Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685

Gly Thr Leu Val Thr Val Ser Ser
    690                 695
```

<210> 349
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 349
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1   5   10   15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20   25   30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35   40   45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50   55   60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65   70   75   80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85   90   95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100   105   110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115   120   125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130   135   140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145   150   155   160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165   170   175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180   185   190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195   200   205

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu
    610                 615                 620

Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655


Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670


Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685


Gly Thr Leu Val Thr Val Ser Ser
    690                 695


<210> 350
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 350
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
```

```
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540
```

```
Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560


Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575


Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590


Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605


Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
    610                 615                 620


Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655


Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670


Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685


Gly Thr Leu Val Thr Val Ser Ser
    690                 695


<210> 351
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 351
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15
```

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220
```

```
Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445
```

```
Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
    610                 615                 620

Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655
```

```
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670


Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685


Gly Thr Leu Val Thr Val Ser Ser
    690                 695


<210> 352
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 352
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125
```

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
```

```
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
    610                 615                 620

Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670

Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685

Gly Thr Leu Val Thr Val Ser Ser
    690                 695
```

<210> 353
<211> 696
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 353

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240
```

```
Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460
```

```
Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575

Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
            580                 585                 590

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala
        595                 600                 605

Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu
    610                 615                 620

Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val
625                 630                 635                 640

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
                645                 650                 655

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
            660                 665                 670
```

```
Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln
        675                 680                 685


Gly Thr Leu Val Thr Val Ser Ser
    690                 695


<210> 354
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      6xHis tag"

<400> 354
His His His His His His
1               5


<210> 355
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 355
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300
```

```
Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510
```

```
Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 356
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 356
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125
```

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
```

```
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 357
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 357
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
165 170 175

```
Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380
```

```
Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400


Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415


Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430


Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 358
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 358
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1   5   10   15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20   25   30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35   40   45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50   55   60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65   70   75   80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85   90   95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100   105   110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115   120   125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130   135   140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145   150   155   160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165   170   175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180   185   190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195   200   205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys

```
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Cys Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 359
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 359
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45
```

```
Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255
```

```
Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Cys
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480
```

```
Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Cys Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 360
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 360

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
```

```
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300
```

```
Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
```

515 520 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
530 535 540

Glu Ile Lys
545

<210> 361
<211> 427
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 361
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
                325                 330                 335

Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln
            340                 345                 350
```

```
Arg Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
        355                 360                 365


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
    370                 375                 380


Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400


Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
                405                 410                 415


Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 362
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 362
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
```

```
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300
```

```
Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
            420                 425                 430

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
        435                 440                 445

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
    450                 455                 460

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
465                 470                 475                 480

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
                485                 490                 495

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
            500                 505                 510

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
```

515 520 525

<210> 363
<211> 642
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 363
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
    530                 535                 540

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
545                 550                 555                 560

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
                565                 570                 575

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
            580                 585                 590
```

```
Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
        595                 600                 605


Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
    610                 615                 620


Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys
625                 630                 635                 640


Ser Cys



<210> 364
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 364
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110
```

```
Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        115                 120                 125


Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140


Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys
145                 150                 155                 160


Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175


Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser
            180                 185                 190


Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205


Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220


Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240


His His His His His
                245


<210> 365
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 365
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30
```

```
Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        115                 120                 125

Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys
145                 150                 155                 160

Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240
```

His His His His His
245

<210> 366
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 366
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
115 120 125

Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
130 135 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys
145 150 155 160

```
Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175


Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190


Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205


Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220


Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240


His His His His His
                245


<210> 367
<211> 609
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 367
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80
```

```
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly
        275                 280                 285
```

```
Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
    370                 375                 380

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
                485                 490                 495

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
            500                 505                 510
```

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
515 520 525

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
530 535 540

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
545 550 555 560

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
565 570 575

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
580 585 590

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
595 600 605

Ser

<210> 368
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 368
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val

```
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Ser Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
```

```
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Ser Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700
```

```
Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
```

915 920 925

Ser Ser
930

<210> 369
<211> 935
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 369
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro
    450                 455                 460

Ala Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp
465                 470                 475                 480

Met Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala
                485                 490                 495

Glu Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu
            500                 505                 510

Lys Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala
        515                 520                 525

Thr Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln
    530                 535                 540

Lys Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp
545                 550                 555                 560

Leu Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln
                565                 570                 575
```

```
Asn His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala
            580                 585                 590

Ile Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg
        595                 600                 605

Gln Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys
    610                 615                 620

Leu Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn
625                 630                 635                 640

Arg Val Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala
                645                 650                 655

Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
    690                 695                 700

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
705                 710                 715                 720

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
                725                 730                 735

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
            740                 745                 750

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
        755                 760                 765

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
    770                 775                 780

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
785                 790                 795                 800
```

```
Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                805                 810                 815

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
            820                 825                 830

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        835                 840                 845

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
    850                 855                 860

Leu Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr
865                 870                 875                 880

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
                885                 890                 895

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
            900                 905                 910

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
        915                 920                 925

Thr Met Val Thr Val Ser Ser
    930                 935


<210> 370
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 370
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
```

```
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
```

```
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Cys Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
```

885 890 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 371
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 371
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540
```

```
Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Cys Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765
```

```
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Cys Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 372
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 372

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                  10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205
```

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
```

```
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys His His His His His His
545                 550
```

<210> 373
<211> 444
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 373

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255
```

```
Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln
305                 310                 315                 320

Thr Gly Gly Ser Leu Arg Leu Ser Cys Thr Thr Ser Gly Thr Ile Phe
                325                 330                 335

Ser Gly Tyr Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Glu Gln Arg
            340                 345                 350

Glu Leu Val Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp
        355                 360                 365

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Thr Lys Asp Thr
    370                 375                 380

Met Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr
385                 390                 395                 400

Tyr Cys Tyr Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp
            420                 425                 430

Val Pro Asp Tyr Gly Ser His His His His His His
        435                 440
```

<210> 374
<211> 444
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 374
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
165 170 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
180 185 190

```
Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln
305                 310                 315                 320

Glu Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe
                325                 330                 335

Ser Thr Asp Val Met Gly Trp Tyr Arg Gln Ala Ala Glu Lys Gln Arg
            340                 345                 350

Glu Leu Val Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp
        355                 360                 365

Ala Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr
    370                 375                 380

Leu Thr Leu Gln Met Asn Asp Leu Lys Pro Glu Asp Thr Ala Ser Tyr
385                 390                 395                 400

Tyr Cys Tyr Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly
```

405 410 415

Gln Gly Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp
420 425 430

Val Pro Asp Tyr Gly Ser His His His His His His
435 440

<210> 375
<211> 445
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 375
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln
305                 310                 315                 320

Ala Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe
                325                 330                 335

Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg
            340                 345                 350
```

```
Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp
        355                 360                 365


Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr
    370                 375                 380


Val Tyr Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr
385                 390                 395                 400


Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp
                405                 410                 415


Gly Gln Gly Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr
            420                 425                 430


Asp Val Pro Asp Tyr Gly Ser His His His His His His
        435                 440                 445


<210> 376
<211> 557
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 376
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
```

```
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285
```

```
Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
            420                 425                 430

Gly Met Lys Gly Leu Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
```

```
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys His His His His His His Glu Pro Glu Ala
545                 550                 555

<210> 377
<211> 557
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 377
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540
```

Glu Ile Lys His His His His His His Glu Pro Glu Ala
545 550 555

<210> 378
<211> 557
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 378
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

```
Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
```

```
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Gly Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys His His His His His His Glu Pro Glu Ala
545                 550                 555


<210> 379
<211> 557
<212> PRT
<213> Artificial Sequence

<220>
<221> source
```

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 379

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                  10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ser Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205
```

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415
```

```
Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430


Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys His His His His His His Glu Pro Glu Ala
545                 550                 555


<210> 380
<211> 1027
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 380
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys
145                 150                 155                 160

Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala
                165                 170                 175

Gln Tyr Leu Gln Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn
            180                 185                 190

Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu
        195                 200                 205

Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr
    210                 215                 220

Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala
225                 230                 235                 240

Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp
```

```
                245                 250                 255

Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys
            260                 265                 270

Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr
        275                 280                 285

Glu Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe
    290                 295                 300

Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala
305                 310                 315                 320

Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu
                325                 330                 335

Gly Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln
            340                 345                 350

Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser
        355                 360                 365

Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr
    370                 375                 380

Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu
385                 390                 395                 400

Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln
                405                 410                 415

Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu
            420                 425                 430

Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala
        435                 440                 445

Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys
    450                 455                 460
```

```
Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr
465                 470                 475                 480

Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg
                485                 490                 495

Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala
            500                 505                 510

Asp Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu
        515                 520                 525

Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu
    530                 535                 540

Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr
545                 550                 555                 560

Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg
                565                 570                 575

Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys
            580                 585                 590

Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu
        595                 600                 605

Cys Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys
    610                 615                 620

Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu
625                 630                 635                 640

Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr
                645                 650                 655

Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys
            660                 665                 670

Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr
```

```
        675                 680                 685

Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu
    690                 695                 700

Lys Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly
705                 710                 715                 720

Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu Gly Gly Gly
                725                 730                 735

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            740                 745                 750

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly
        755                 760                 765

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu
    770                 775                 780

Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys
785                 790                 795                 800

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg
                805                 810                 815

Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser
            820                 825                 830

Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser
        835                 840                 845

Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg
    850                 855                 860

Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp
865                 870                 875                 880

Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly
                885                 890                 895
```

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
            900                 905                 910

Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
        915                 920                 925

Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly
    930                 935                 940

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser
945                 950                 955                 960

Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
                965                 970                 975

Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
            980                 985                 990

Phe Ala Thr Tyr Tyr Cys Gln Gln  Tyr Tyr Thr Tyr Pro  Tyr Thr Phe
        995                 1000                1005

Gly Gly  Gly Thr Lys Val Glu  Ile Lys His His His  His His His
    1010                1015                1020

Glu Pro  Glu Ala
    1025


<210> 381
<211> 1022
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 381
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn
145                 150                 155                 160

Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser
                165                 170                 175

Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln
            180                 185                 190

Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala
        195                 200                 205

Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala
    210                 215                 220

Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr
225                 230                 235                 240
```

```
Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp
                245                 250                 255

Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys
            260                 265                 270

Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His
        275                 280                 285

Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr
    290                 295                 300

Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala
305                 310                 315                 320

Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys
                325                 330                 335

Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln
            340                 345                 350

Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser
        355                 360                 365

Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr
    370                 375                 380

Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu
385                 390                 395                 400

Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln
                405                 410                 415

Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu
            420                 425                 430

Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala
        435                 440                 445

Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys
    450                 455                 460
```

```
Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr
465                 470                 475                 480

Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg
                485                 490                 495

Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala
            500                 505                 510

Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu
        515                 520                 525

Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu
    530                 535                 540

Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr
545                 550                 555                 560

Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg
                565                 570                 575

Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln
            580                 585                 590

Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val
        595                 600                 605

Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys
    610                 615                 620

Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr
625                 630                 635                 640

Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr
                645                 650                 655

Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys
            660                 665                 670
```

```
Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr
        675                 680                 685

Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp
    690                 695                 700

Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly
705                 710                 715                 720

Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Gly Gly Gly Gly
                725                 730                 735

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            740                 745                 750

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro
        755                 760                 765

Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser
    770                 775                 780

Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
785                 790                 795                 800

Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln
                805                 810                 815

Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser
            820                 825                 830

Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg
        835                 840                 845

Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala
    850                 855                 860

Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala
865                 870                 875                 880

Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly
                885                 890                 895
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
            900                 905                 910

Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
        915                 920                 925

Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp
    930                 935                 940

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala
945                 950                 955                 960

Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
                965                 970                 975

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
            980                 985                 990

Ala Thr Tyr Tyr Cys Gln Gln Tyr  Tyr Thr Tyr Pro Tyr  Thr Phe Gly
        995                 1000                1005

Gly Gly  Thr Lys Val Glu Ile  Lys His His His His  His His
    1010                1015                1020


<210> 382
<211> 1336
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 382
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1               5                   10                  15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20                  25                  30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
```

```
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50                  55                  60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65                  70                  75                  80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100                 105                 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255
```

```
Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
```

```
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Gly Pro Ala Gly
            580                 585                 590

Met Lys Gly Leu Pro Gly Ser Thr Phe Lys Phe Tyr Met Pro Lys Lys
        595                 600                 605

Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro
    610                 615                 620

Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg
625                 630                 635                 640

Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys
                645                 650                 655

Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr
            660                 665                 670

Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile
        675                 680                 685
```

```
Ser Thr Leu Thr Gly Gly Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln
    690                 695                 700

Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn
705                 710                 715                 720

Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Ser Gly Gly Pro Gly
                725                 730                 735

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Ala His Lys Ser Glu
            740                 745                 750

Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu
        755                 760                 765

Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu
    770                 775                 780

His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val
785                 790                 795                 800

Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe
                805                 810                 815

Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu
            820                 825                 830

Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
        835                 840                 845

Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro
    850                 855                 860

Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe
865                 870                 875                 880

Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr
                885                 890                 895

Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr
```

```
            900                 905                 910

Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu
        915                 920                 925

Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met
    930                 935                 940

Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
945                 950                 955                 960

Ala Val Ala Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu
                965                 970                 975

Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys
            980                 985                 990

His Gly Asp Leu Leu Glu Cys Ala  Asp Asp Arg Ala Glu  Leu Ala Lys
        995                 1000                1005

Tyr Met  Cys Glu Asn Gln Ala  Thr Ile Ser Ser Lys  Leu Gln Thr
    1010                1015                1020

Cys Cys  Asp Lys Pro Leu Leu  Lys Lys Ala His Cys  Leu Ser Glu
    1025                1030                1035

Val Glu  His Asp Thr Met Pro  Ala Asp Leu Pro Ala  Ile Ala Ala
    1040                1045                1050

Asp Phe  Val Glu Asp Gln Glu  Val Cys Lys Asn Tyr  Ala Glu Ala
    1055                1060                1065

Lys Asp  Val Phe Leu Gly Thr  Phe Leu Tyr Glu Tyr  Ser Arg Arg
    1070                1075                1080

His Pro  Asp Tyr Ser Val Ser  Leu Leu Leu Arg Leu  Ala Lys Lys
    1085                1090                1095

Tyr Glu  Ala Thr Leu Glu Lys  Cys Cys Ala Glu Ala  Asn Pro Pro
    1100                1105                1110
```

```
Ala Cys  Tyr Gly Thr Val Leu  Ala Glu Phe Gln Pro  Leu Val Glu
    1115                1120                1125

Glu Pro  Lys Asn Leu Val Lys  Thr Asn Cys Asp Leu  Tyr Glu Lys
    1130                1135                1140

Leu Gly  Glu Tyr Gly Phe Gln  Asn Ala Ile Leu Val  Arg Tyr Thr
    1145                1150                1155

Gln Lys  Ala Pro Gln Val Ser  Thr Pro Thr Leu Val  Glu Ala Ala
    1160                1165                1170

Arg Asn  Leu Gly Arg Val Gly  Thr Lys Cys Cys Thr  Leu Pro Glu
    1175                1180                1185

Asp Gln  Arg Leu Pro Cys Val  Glu Asp Tyr Leu Ser  Ala Ile Leu
    1190                1195                1200

Asn Arg  Val Cys Leu Leu His  Glu Lys Thr Pro Val  Ser Glu His
    1205                1210                1215

Val Thr  Lys Cys Cys Ser Gly  Ser Leu Val Glu Arg  Arg Pro Cys
    1220                1225                1230

Phe Ser  Ala Leu Thr Val Asp  Glu Thr Tyr Val Pro  Lys Glu Phe
    1235                1240                1245

Lys Ala  Glu Thr Phe Thr Phe  His Ser Asp Ile Cys  Thr Leu Pro
    1250                1255                1260

Glu Lys  Glu Lys Gln Ile Lys  Lys Gln Thr Ala Leu  Ala Glu Leu
    1265                1270                1275

Val Lys  His Lys Pro Lys Ala  Thr Ala Glu Gln Leu  Lys Thr Val
    1280                1285                1290

Met Asp  Asp Phe Ala Gln Phe  Leu Asp Thr Cys Cys  Lys Ala Ala
    1295                1300                1305

Asp Lys  Asp Thr Cys Phe Ser  Thr Glu Gly Pro Asn  Leu Val Thr
```

```
    1310                1315                1320


Arg Cys  Lys Asp Ala Leu Ala  His His His His His  His
    1325                1330                1335


<210> 383
<211> 817
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 383
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110


Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125


Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140
```

```
Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365
```

```
Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
545                 550                 555                 560

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                565                 570                 575
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            580                 585                 590

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
        595                 600                 605

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
    610                 615                 620

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
625                 630                 635                 640

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
                645                 650                 655

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
            660                 665                 670

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
        675                 680                 685

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
    690                 695                 700

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
705                 710                 715                 720

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
                725                 730                 735

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
            740                 745                 750

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
        755                 760                 765

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Cys
    770                 775                 780

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
785                 790                 795                 800
```

```
Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln His His His His His
                805                 810                 815


His



<210> 384
<211> 817
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 384
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1               5                   10                  15


Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
            20                  25                  30


Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
        35                  40                  45


Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
    50                  55                  60


Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65                  70                  75                  80


Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95


Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110


Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125


Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
```

```
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Cys
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Met Lys Gly Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350
```

```
Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
```

```
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
                725                 730                 735

Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
            740                 745                 750

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780
```

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785 790 795 800

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His
805 810 815

His

<210> 385
<211> 817
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 385
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr
            180                 185                 190

Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys
        195                 200                 205

Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys
    210                 215                 220

Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr
225                 230                 235                 240

Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu
                245                 250                 255

Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro
            260                 265                 270

Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp
        275                 280                 285

Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met
    290                 295                 300

Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro
305                 310                 315                 320

Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln
                325                 330                 335
```

```
Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly
            340                 345                 350

Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr
        355                 360                 365

Ser Cys Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala
    370                 375                 380

Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560
```

```
Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn
                725                 730                 735

Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile
            740                 745                 750

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765
```

```
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His His His His His
                805                 810                 815

His
```

<210> 386
<211> 682
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 386

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110
```

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys
    130                 135                 140

His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu
145                 150                 155                 160

Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile
                165                 170                 175

Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr
            180                 185                 190

Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu
        195                 200                 205

Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly
    210                 215                 220

Gly Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu
225                 230                 235                 240

Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro
                245                 250                 255

Lys Leu Thr Arg Met Leu Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            260                 265                 270

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        275                 280                 285

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    290                 295                 300

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
305                 310                 315                 320

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
```

```
                325                 330                 335

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
            340                 345                 350

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
        355                 360                 365

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
    370                 375                 380

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                405                 410                 415

Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
            420                 425                 430

Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
        435                 440                 445

Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
    450                 455                 460

Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys
465                 470                 475                 480

Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser
                485                 490                 495

Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
            500                 505                 510

Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
        515                 520                 525

Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp
    530                 535                 540
```

```
Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
545                 550                 555                 560


Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
                565                 570                 575


Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
            580                 585                 590


Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys
        595                 600                 605


Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr
    610                 615                 620


Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
625                 630                 635                 640


Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
                645                 650                 655


Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys
            660                 665                 670


Val Glu Ile Lys His His His His His His
        675                 680


<210> 387
<211> 682
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 387
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30
```

```
Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Ser
225                 230                 235                 240
```

```
Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly
                245                 250                 255

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val Gln Leu
        275                 280                 285

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
    290                 295                 300

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
305                 310                 315                 320

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
                325                 330                 335

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
            340                 345                 350

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
        355                 360                 365

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
    370                 375                 380

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Ser
385                 390                 395                 400

Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Thr Phe
                405                 410                 415

Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys
            420                 425                 430

Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln
        435                 440                 445

Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn
    450                 455                 460
```

```
Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu
465                 470                 475                 480

Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile
                485                 490                 495

Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Ser Ser Ser
            500                 505                 510

Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln
        515                 520                 525

Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg
    530                 535                 540

Met Leu Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
545                 550                 555                 560

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
                565                 570                 575

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
            580                 585                 590

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
        595                 600                 605

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
    610                 615                 620

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
625                 630                 635                 640

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
                645                 650                 655

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
            660                 665                 670
```

Thr Val Ser Ser His His His His His His
675 680

<210> 388
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 388
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

```
Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
```

370 375 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385 390 395 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
405 410 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
435 440 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
450 455 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465 470 475 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
485 490 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
500 505 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
515 520 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
530 535 540

Glu Ile Lys His His His His His His
545 550

<210> 389
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 389

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                  10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205
```

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    290                 295                 300

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415
```

```
Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430


Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445


Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Gln Ala Pro Arg Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys His His His His His His
545                 550


<210> 390
<211> 667
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 390
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30
```

```
Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
145                 150                 155                 160

Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
                165                 170                 175

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
            180                 185                 190

Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
        195                 200                 205

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
    210                 215                 220

Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
225                 230                 235                 240

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
```

```
                245                 250                 255

Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
            260                 265                 270

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met
        275                 280                 285

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
    290                 295                 300

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
305                 310                 315                 320

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
                325                 330                 335

Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val
            340                 345                 350

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
        355                 360                 365

Lys Ser Leu Ser Leu Ser Leu Gly Lys Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met
                405                 410                 415

Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460
```

```
Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys His His His His His His
            660                 665
```

<210> 391

<211> 667
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 391
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

```
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
225                 230                 235                 240

Leu Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400
```

```
Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met
                405                 410                 415

Lys Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605
```

```
Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys His His His His His His
            660                 665
```

<210> 392
<211> 667
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 392

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
```

```
                325                 330                 335

Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
            420                 425                 430

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
        435                 440                 445

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
    450                 455                 460

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
465                 470                 475                 480

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
                485                 490                 495

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
            500                 505                 510

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
        515                 520                 525

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
    530                 535                 540
```

```
Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
545                 550                 555                 560


Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
                565                 570                 575


Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
            580                 585                 590


Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
        595                 600                 605


Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
    610                 615                 620


Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
625                 630                 635                 640


Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
                645                 650                 655


Leu Ser Leu Gly Lys His His His His His His
            660                 665


<210> 393
<211> 665
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 393
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15


Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30


Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45
```

```
Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255
```

```
Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
                405                 410                 415

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480
```

```
Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys His His His His His His
            660                 665
```

<210> 394
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 394
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
165 170 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
180 185 190

```
Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
```

405 410 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
420 425 430

Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
435 440 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
450 455 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465 470 475 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
485 490 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
500 505 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
515 520 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
530 535 540

Glu Ile Lys
545

<210> 395
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 395
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240
```

```
Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445
```

```
Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 396
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 396

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60
```

```
Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
```

```
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
            420                 425                 430

Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495
```

```
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540

Glu Ile Lys
545
```

<210> 397
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 397

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320
```

```
Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540
```

Glu Ile Lys
545

<210> 398
<211> 427
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 398
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
130 135 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val

```
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
                325                 330                 335

Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
        355                 360                 365
```

```
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
    370                 375                 380


Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400


Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
                405                 410                 415


Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 399
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 399
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80


Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95


Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110
```

```
Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130                 135                 140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    290                 295                 300

Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320
```

```
Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile
                325                 330                 335

Phe Ser Thr Asp Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln
            340                 345                 350

Arg Glu Leu Val Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu
        355                 360                 365

Asp Ala Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
    370                 375                 380

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Tyr Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp
                405                 410                 415

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 400
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 400
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1               5                   10                  15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
            20                  25                  30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
        35                  40                  45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
    50                  55                  60
```

```
Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65                  70                  75                  80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
```

```
        275                 280                 285

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495
```

```
Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
```

705 710 715 720

Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
725 730 735

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
740 745 750

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
755 760 765

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
770 775 780

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785 790 795 800

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
805 810

<210> 401
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 401
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

```
Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65                  70                  75                  80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285
```

```
Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495
```

```
Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720
```

```
Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala
                725                 730                 735

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
            740                 745                 750

Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
                805                 810
```

<210> 402
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 402

```
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1               5                   10                  15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
            20                  25                  30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
        35                  40                  45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
    50                  55                  60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
```

```
65                  70                  75                  80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285
```

```
Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
```

```
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720
```

```
Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
                725                 730                 735


Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
            740                 745                 750


Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
                805                 810


<210> 403
<211> 811
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 403
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1               5                   10                  15


Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
            20                  25                  30


Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
        35                  40                  45


Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
    50                  55                  60


Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65                  70                  75                  80
```

```
Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285
```

```
Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510
```

```
Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp
        595                 600                 605

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala Ile Asp
    610                 615                 620

Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn
            660                 665                 670

Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    690                 695                 700

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
705                 710                 715                 720
```

```
Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp Gly Asn
                725                 730                 735


Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile
            740                 745                 750


Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
        755                 760                 765


Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
    770                 775                 780


Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr
785                 790                 795                 800


Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
                805                 810
```

<210> 404
<211> 691
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 404

```
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1               5                   10                  15


Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
            20                  25                  30


Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
        35                  40                  45


Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
    50                  55                  60


Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65                  70                  75                  80
```

```
Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
                85                  90                  95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
            100                 105                 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
        115                 120                 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
    130                 135                 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145                 150                 155                 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
                165                 170                 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
            180                 185                 190

Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
```

```
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510
```

```
Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn Ala Met Gly Trp
        595                 600                 605

Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val Ala Val Ile Ser
    610                 615                 620

Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
625                 630                 635                 640

Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met Asn Ser
                645                 650                 655

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met Tyr Ser Gly Ser
            660                 665                 670

Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
        675                 680                 685

Val Ser Ser
    690
```

<210> 405
<211> 690
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 405
Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe Pro Gly Glu Glu
165 170 175

Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser Glu Thr Ser Ser
180 185 190

```
Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu Met Ala Ala Thr
        195                 200                 205

Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly Gly Gly Gly Ser
    210                 215                 220

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
225                 230                 235                 240

Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala
                245                 250                 255

Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys
            260                 265                 270

Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
        275                 280                 285

Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
    290                 295                 300

Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
305                 310                 315                 320

Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
                325                 330                 335

Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn
            340                 345                 350

Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met
        355                 360                 365

Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg
    370                 375                 380

Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr Ser Gly Gly
385                 390                 395                 400

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                405                 410                 415
```

```
Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
            420                 425                 430

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
        435                 440                 445

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
    450                 455                 460

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
465                 470                 475                 480

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
                485                 490                 495

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
            500                 505                 510

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly
        515                 520                 525

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
545                 550                 555                 560

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu
                565                 570                 575

Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
            580                 585                 590

Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp Val Met Gly Trp
        595                 600                 605

Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala Val Val Ser
    610                 615                 620
```

```
Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys Gly Arg Phe Thr
625                 630                 635                 640


Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser
                645                 650                 655


Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr Val Arg Glu Thr
            660                 665                 670


Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
        675                 680                 685


Ser Ser
    690


<210> 406
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 406
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60


Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80


Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95
```

```
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
```

```
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525
```

```
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly
    530                 535                 540

Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys
            660
```

<210> 407
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 407

```
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30
```

```
Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240
```

```
Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460
```

```
Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg
        595                 600                 605

Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655

Lys Val Glu Ile Lys
            660
```

<210> 408
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 408
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
165 170 175

```
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
```

```
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly
    530                 535                 540

Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560

Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575

Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
            580                 585                 590

Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
        595                 600                 605
```

Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
610 615 620

Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625 630 635 640

Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
645 650 655

Lys Val Glu Ile Lys
660

<210> 409
<211> 661
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 409
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

```
Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320
```

```
Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Phe Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr
465                 470                 475                 480

Ser Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
                485                 490                 495

Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser
    530                 535                 540
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln
545                 550                 555                 560


Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr
                565                 570                 575


Cys Lys Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln
            580                 585                 590


Lys Pro Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg
        595                 600                 605


Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
    610                 615                 620


Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr
625                 630                 635                 640


Tyr Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr
                645                 650                 655


Lys Val Glu Ile Lys
            660


<210> 410
<211> 541
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 410
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
```

```
        35                  40                  45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255
```

```
Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320

Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
        435                 440                 445

Ser Ile Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gly Leu Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn
```

```
465                 470                 475                 480

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
                485                 490                 495

Lys Asn Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn
        515                 520                 525

Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535                 540


<210> 411
<211> 540
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 411
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95
```

```
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu
                245                 250                 255

Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile
            260                 265                 270

Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe
        275                 280                 285

Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu
    290                 295                 300

Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys
305                 310                 315                 320
```

```
Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile
                325                 330                 335

Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala
            340                 345                 350

Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe
        355                 360                 365

Cys Gln Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly
    370                 375                 380

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
385                 390                 395                 400

Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                405                 410                 415

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly
            420                 425                 430

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu
        435                 440                 445

Arg Ile Phe Ser Thr Asp Val Met Gly Trp Tyr Arg Gln Ala Pro Gly
    450                 455                 460

Lys Gln Arg Glu Leu Val Ala Val Val Ser Ala Arg Gly Thr Thr Asn
465                 470                 475                 480

Tyr Leu Asp Ala Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
                485                 490                 495

Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
            500                 505                 510

Ala Val Tyr Tyr Cys Tyr Val Arg Glu Thr Thr Ser Pro Trp Arg Ile
        515                 520                 525
```

```
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535                 540


<210> 412
<211> 925
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 412
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15


Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30


Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45


Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60


Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80


Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95


Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110


Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125


Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140


Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160
```

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His
                245                 250                 255

Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys
            260                 265                 270

Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met
        275                 280                 285

Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln
    290                 295                 300

Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln
305                 310                 315                 320

Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met
                325                 330                 335

Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro
            340                 345                 350

Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly
        355                 360                 365

Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg
```

```
    370                 375                 380

Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp
385                 390                 395                 400

Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe
                405                 410                 415

Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser
            420                 425                 430

Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu
        435                 440                 445

Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
                485                 490                 495

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser
            500                 505                 510

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
        515                 520                 525

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
    530                 535                 540

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
545                 550                 555                 560

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
                565                 570                 575

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
            580                 585                 590
```

```
Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
        595                 600                 605

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
    610                 615                 620

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
625                 630                 635                 640

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                645                 650                 655

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            660                 665                 670

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
        675                 680                 685

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu
    690                 695                 700

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu
705                 710                 715                 720

Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala
                725                 730                 735

Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp
    770                 775                 780

Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr
785                 790                 795                 800

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
```

```
                805                 810                 815

Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
            820                 825                 830

Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp
        835                 840                 845

Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser
    850                 855                 860

Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe
865                 870                 875                 880

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
                885                 890                 895

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr
            900                 905                 910

Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
        915                 920                 925


<210> 413
<211> 925
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 413
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45
```

```
Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His
                245                 250                 255

Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys
            260                 265                 270
```

```
Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met
        275                 280                 285

Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln
    290                 295                 300

Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln
305                 310                 315                 320

Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met
                325                 330                 335

Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro
            340                 345                 350

Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly
        355                 360                 365

Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg
    370                 375                 380

Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp
385                 390                 395                 400

Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe
                405                 410                 415

Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser
            420                 425                 430

Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu
        435                 440                 445

Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
                485                 490                 495

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser
            500                 505                 510

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
        515                 520                 525

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
    530                 535                 540

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
545                 550                 555                 560

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
                565                 570                 575

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
            580                 585                 590

Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
        595                 600                 605

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
    610                 615                 620

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
625                 630                 635                 640

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                645                 650                 655

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            660                 665                 670

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
        675                 680                 685

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu
    690                 695                 700
```

```
Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu
705                 710                 715                 720

Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala
                725                 730                 735

Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp
    770                 775                 780

Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr
785                 790                 795                 800

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                805                 810                 815

Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
            820                 825                 830

Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Arg Glu Lys Leu Trp
        835                 840                 845

Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser
    850                 855                 860

Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser Arg Phe
865                 870                 875                 880

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
                885                 890                 895

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr
            900                 905                 910
```

Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
915 920 925

<210> 414
<211> 925
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 414
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His
                245                 250                 255

Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys
            260                 265                 270

Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met
        275                 280                 285

Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln
    290                 295                 300

Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln
305                 310                 315                 320

Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met
                325                 330                 335

Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro
            340                 345                 350

Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly
        355                 360                 365

Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg
```

```
    370                 375                 380

Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp
385                 390                 395                 400

Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe
                405                 410                 415

Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser
            420                 425                 430

Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu
        435                 440                 445

Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
                485                 490                 495

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser
            500                 505                 510

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
        515                 520                 525

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
    530                 535                 540

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
545                 550                 555                 560

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
                565                 570                 575

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
            580                 585                 590
```

```
Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
        595                 600                 605

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
    610                 615                 620

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
625                 630                 635                 640

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                645                 650                 655

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            660                 665                 670

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
        675                 680                 685

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu
    690                 695                 700

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu
705                 710                 715                 720

Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala
                725                 730                 735

Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp
    770                 775                 780

Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr
785                 790                 795                 800

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
```

```
                805                 810                 815

Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
            820                 825                 830

Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp
        835                 840                 845

Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser
    850                 855                 860

Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe
865                 870                 875                 880

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
                885                 890                 895

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr
            900                 905                 910

Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
        915                 920                 925


<210> 415
<211> 925
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 415
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1               5                   10                  15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
            20                  25                  30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
        35                  40                  45
```

```
Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
    50                  55                  60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65                  70                  75                  80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
                85                  90                  95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
            100                 105                 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
        115                 120                 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His
                245                 250                 255

Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys
            260                 265                 270
```

```
Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met
        275                 280                 285

Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln
    290                 295                 300

Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln
305                 310                 315                 320

Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met
                325                 330                 335

Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro
            340                 345                 350

Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly
        355                 360                 365

Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg
    370                 375                 380

Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp
385                 390                 395                 400

Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe
                405                 410                 415

Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser
            420                 425                 430

Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu
        435                 440                 445

Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
                485                 490                 495

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser
            500                 505                 510

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
        515                 520                 525

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
    530                 535                 540

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
545                 550                 555                 560

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
                565                 570                 575

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
            580                 585                 590

Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
        595                 600                 605

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
    610                 615                 620

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
625                 630                 635                 640

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                645                 650                 655

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            660                 665                 670

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
        675                 680                 685

Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu
    690                 695                 700
```

```
Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Leu
705                 710                 715                 720

Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Ala
                725                 730                 735

Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp
    770                 775                 780

Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr Val Thr
785                 790                 795                 800

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                805                 810                 815

Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
            820                 825                 830

Val Gly Asp Arg Val Thr Ile Thr Cys Lys Val Thr Glu Lys Val Trp
        835                 840                 845

Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ile Ser
    850                 855                 860

Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser Gly Val Pro Ser Arg Phe
865                 870                 875                 880

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
                885                 890                 895

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Thr Tyr
            900                 905                 910
```

Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
915 920 925

<210> 416
<211> 805
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 416
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His
                245                 250                 255

Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys
            260                 265                 270

Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met
        275                 280                 285

Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln
    290                 295                 300

Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln
305                 310                 315                 320

Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met
                325                 330                 335

Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro
            340                 345                 350

Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly
        355                 360                 365

Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg
```

```
    370                 375                 380

Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp
385                 390                 395                 400

Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe
                405                 410                 415

Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser
            420                 425                 430

Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu
        435                 440                 445

Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
                485                 490                 495

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser
            500                 505                 510

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
        515                 520                 525

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
    530                 535                 540

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
545                 550                 555                 560

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
                565                 570                 575

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
            580                 585                 590
```

```
Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
        595                 600                 605

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
    610                 615                 620

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
625                 630                 635                 640

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                645                 650                 655

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            660                 665                 670

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
        675                 680                 685

Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu
    690                 695                 700

Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn Ala Met
705                 710                 715                 720

Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val Ala Val
                725                 730                 735

Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met Tyr Ser
    770                 775                 780

Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly Thr Leu
785                 790                 795                 800

Val Thr Val Ser Ser
```

805

<210> 417
<211> 804
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 417
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
20 25 30

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
65 70 75 80

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
115 120 125

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
225                 230                 235                 240

Gln Pro Gly Ser Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His
                245                 250                 255

Ala Thr Phe Lys Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys
            260                 265                 270

Glu Cys Lys Arg Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met
        275                 280                 285

Leu Cys Thr Gly Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln
    290                 295                 300

Cys Thr Ser Ser Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln
305                 310                 315                 320

Pro Glu Glu Gln Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met
                325                 330                 335

Gln Pro Val Asp Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro
            340                 345                 350

Pro Trp Glu Asn Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly
        355                 360                 365

Gln Met Val Tyr Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg
    370                 375                 380
```

```
Gly Pro Ala Glu Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp
385                 390                 395                 400

Thr Gln Pro Gln Leu Ile Cys Thr Gly Glu Met Glu Thr Ser Gln Phe
                405                 410                 415

Pro Gly Glu Glu Lys Pro Gln Ala Ser Pro Glu Gly Arg Pro Glu Ser
            420                 425                 430

Glu Thr Ser Ser Leu Val Thr Thr Thr Asp Phe Gln Ile Gln Thr Glu
        435                 440                 445

Met Ala Ala Thr Met Glu Thr Ser Ile Phe Thr Thr Glu Tyr Gln Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser Gly Gly
                485                 490                 495

Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Ala Pro Thr Ser
            500                 505                 510

Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp
        515                 520                 525

Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu
    530                 535                 540

Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu
545                 550                 555                 560

Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu
                565                 570                 575

Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp
            580                 585                 590
```

```
Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu
        595                 600                 605

Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu
    610                 615                 620

Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu
625                 630                 635                 640

Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                645                 650                 655

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ser
            660                 665                 670

Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val
        675                 680                 685

Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu
    690                 695                 700

Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp Val Met
705                 710                 715                 720

Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val Ala Val
                725                 730                 735

Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr Val Arg
    770                 775                 780

Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr Leu Val
785                 790                 795                 800

Thr Val Ser Ser
```

<210> 418
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 418
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
130 135 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145 150 155 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro

```
                165                 170                 175

Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245
```

<210> 419
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 419

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80
```

```
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        115                 120                 125

Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145                 150                 155                 160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165                 170                 175

Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245
```

<210> 420
<211> 245
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 420
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20   25   30

Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50   55   60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65   70   75   80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85   90   95

Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100   105   110

Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        115   120   125

Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130   135   140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn
145   150   155   160

Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
                165   170   175

Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val Pro Ser
            180   185   190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195   200   205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr

```
    210                 215                 220

Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys His
225                 230                 235                 240

His His His His His
                245

<210> 421
<211> 612
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 421
Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr
1               5                   10                  15

Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr
            20                  25                  30

Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala
        35                  40                  45

Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp
    50                  55                  60

Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg
65                  70                  75                  80

Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys
                85                  90                  95

Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu
            100                 105                 110

Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe
        115                 120                 125
```

```
Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile
    130                 135                 140

Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala
145                 150                 155                 160

Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu
                165                 170                 175

Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu
            180                 185                 190

Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly
        195                 200                 205

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu Pro
    210                 215                 220

Gln Thr His Asn Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln
225                 230                 235                 240

Met Arg Arg Leu Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe
                245                 250                 255

Gly Phe Pro Gln Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln
            260                 265                 270

Ala Ile Pro Val Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe
        275                 280                 285

Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser
    290                 295                 300

Phe Cys Asn Asp Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu
305                 310                 315                 320

Met Gln Gln Val Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala
                325                 330                 335

Leu Leu Ala Val Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg
            340                 345                 350
```

```
Glu Lys Lys His Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val
        355                 360                 365

Trp Arg Ala Leu Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu
    370                 375                 380

Glu Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
385                 390                 395                 400

Ser Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
                405                 410                 415

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
            420                 425                 430

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
        435                 440                 445

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
    450                 455                 460

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
465                 470                 475                 480

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
                485                 490                 495

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
            500                 505                 510

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
        515                 520                 525

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
    530                 535                 540

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
545                 550                 555                 560
```

```
Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
                565                 570                 575


Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
            580                 585                 590


Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala His His
        595                 600                 605


His His His His
    610


<210> 422
<211> 1030
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 422
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1               5                   10                  15


Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20                  25                  30


Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
        35                  40                  45


Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50                  55                  60


Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65                  70                  75                  80


Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85                  90                  95


Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100                 105                 110
```

```
Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        195                 200                 205

Ser Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
    210                 215                 220

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
225                 230                 235                 240

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
                245                 250                 255

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
            260                 265                 270

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
        275                 280                 285

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
    290                 295                 300

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
305                 310                 315                 320

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
```

```
                325                 330                 335

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
            340                 345                 350

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
        355                 360                 365

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
    370                 375                 380

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
385                 390                 395                 400

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
                405                 410                 415

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Cys Asp Leu
            420                 425                 430

Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala Leu Thr Leu Leu Val
        435                 440                 445

Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp
    450                 455                 460

Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln Gln Ile Lys Lys Ala
465                 470                 475                 480

Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile
                485                 490                 495

Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp
            500                 505                 510

Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn Asp Leu Gln Gly Cys
        515                 520                 525

Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro Leu Thr Gln Glu Asp
    530                 535                 540
```

```
Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg Ile Thr Val Tyr Leu
545                 550                 555                 560

Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu
                565                 570                 575

Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val Leu Gly Arg Leu Arg
            580                 585                 590

Glu Glu Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        595                 600                 605

Gly Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu
    610                 615                 620

Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr
625                 630                 635                 640

Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val
                645                 650                 655

Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys
            660                 665                 670

Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro
        675                 680                 685

Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln
    690                 695                 700

Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro
705                 710                 715                 720

Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser
                725                 730                 735

Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val
            740                 745                 750

Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala
```

```
        755                 760                 765

Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys
    770                 775                 780

Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu
785                 790                 795                 800

Val Ser Ser Val Arg Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
                805                 810                 815

Gly Gly Ser Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys
            820                 825                 830

Asp Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu
        835                 840                 845

Val Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val
    850                 855                 860

Glu Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu
865                 870                 875                 880

Pro Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile
                885                 890                 895

Leu Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His
            900                 905                 910

Val Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe
        915                 920                 925

Ser Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala
    930                 935                 940

Glu Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu
945                 950                 955                 960

Lys Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys
                965                 970                 975
```

Pro Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala
980 985 990

Gln Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe
995 1000 1005

Ser Thr Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu
1010 1015 1020

Ala His His His His His His
1025 1030

<210> 423
<211> 466
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 423
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

```
Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro Gly
        115                 120                 125

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
    130                 135                 140

Gly Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg
145                 150                 155                 160

Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys
                165                 170                 175

Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala
            180                 185                 190

Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr
        195                 200                 205

Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp
    210                 215                 220

Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu
225                 230                 235                 240

Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe
                245                 250                 255

Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His
            260                 265                 270

Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp
        275                 280                 285

Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn
    290                 295                 300

Val Leu Gly Arg Leu Arg Glu Glu Lys Gly Gly Gly Gly Ser Gly Gly
305                 310                 315                 320
```

Gly Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
325 330 335

Gly Gly Gly Gly Ser Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser
340 345 350

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
355 360 365

Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln
370 375 380

Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly
385 390 395 400

Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser
405 410 415

Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
420 425 430

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser
435 440 445

Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His His His His
450 455 460

His His
465

<210> 424
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 424
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala
    130                 135                 140

Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln
                165                 170                 175

Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln
            180                 185                 190

Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro
```

225 230 235 240

Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg
245 250 255

Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
260 265 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
275 280 285

Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro Gly Pro Ala Gly
290 295 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305 310 315 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
325 330 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
340 345 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
355 360 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
370 375 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385 390 395 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
405 410 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
420 425

<210> 425
<211> 426
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 425
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala
130 135 140

Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu
145 150 155 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln
165 170 175

Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln
180 185 190

```
Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro
225                 230                 235                 240

Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300

Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400
```

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
405 410 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
420 425

<210> 426
<211> 428
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 426
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Pro Leu Ala Gln Lys Leu Lys Ser Ser
115 120 125

Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg
130 135 140

```
Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys
145                 150                 155                 160

Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala
                165                 170                 175

Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr
            180                 185                 190

Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp
        195                 200                 205

Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu
    210                 215                 220

Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe
225                 230                 235                 240

Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His
                245                 250                 255

Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp
            260                 265                 270

Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn
        275                 280                 285

Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro Pro Leu Ala
    290                 295                 300

Gln Lys Leu Lys Ser Ser Pro Gly Ser Glu Val Gln Leu Val Glu Ser
305                 310                 315                 320

Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala
                325                 330                 335

Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln
            340                 345                 350

Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly
```

```
        355                 360                 365

Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser
    370                 375                 380

Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
385                 390                 395                 400

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser
                405                 410                 415

Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 427
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 427
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr
    130                 135                 140

Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln
                165                 170                 175

Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln
            180                 185                 190

Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu
        195                 200                 205

Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp
    210                 215                 220

Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu
225                 230                 235                 240

Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile
                245                 250                 255

Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val
            260                 265                 270

Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln
        275                 280                 285

Glu Ser Leu Arg Ser Lys Glu Ser Gly Gly Pro Gly Pro Ala Gly Leu
    290                 295                 300

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
305                 310                 315                 320
```

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
325 330 335

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
340 345 350

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
355 360 365

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
370 375 380

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
385 390 395 400

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
405 410 415

Gln Gly Thr Leu Val Thr Val Ser Ser
420 425

<210> 428
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 428
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val

```
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr
    130                 135                 140

Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln
                165                 170                 175

Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln
            180                 185                 190

Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu
        195                 200                 205

Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp
    210                 215                 220

Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu
225                 230                 235                 240

Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile
                245                 250                 255

Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val
            260                 265                 270
```

```
Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln
        275                 280                 285

Glu Ser Leu Arg Ser Lys Glu Ser Gly Gly Pro Ala Leu Phe Lys Ser
    290                 295                 300

Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
305                 310                 315                 320

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
                325                 330                 335

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
            340                 345                 350

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
        355                 360                 365

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
    370                 375                 380

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
385                 390                 395                 400

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
                405                 410                 415

Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 429
<211> 427
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 429
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Pro Leu Ala Gln Lys Leu Lys Ser Ser
        115                 120                 125

Pro Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg
    130                 135                 140

Thr Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys
145                 150                 155                 160

Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn
                165                 170                 175

Gln Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln
            180                 185                 190

Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp
        195                 200                 205

Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn
    210                 215                 220
```

```
Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro
225                 230                 235                 240

Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu
        275                 280                 285

Gln Glu Ser Leu Arg Ser Lys Glu Ser Gly Gly Pro Pro Leu Ala Gln
    290                 295                 300

Lys Leu Lys Ser Ser Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
305                 310                 315                 320

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
                325                 330                 335

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
            340                 345                 350

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        355                 360                 365

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    370                 375                 380

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
385                 390                 395                 400

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
                405                 410                 415

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 430
<211> 728

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 430
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
115 120 125

Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr
130 135 140

Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp
145 150 155 160

Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser
165 170 175

Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn

```
            180                 185                 190

Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr
        195                 200                 205

Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile
    210                 215                 220

Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn
225                 230                 235                 240

Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg
                245                 250                 255

Lys Arg Lys Arg Ser Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met
            260                 265                 270

Lys Gly Leu Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg
        275                 280                 285

Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro
    290                 295                 300

Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys
305                 310                 315                 320

Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser
                325                 330                 335

Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser
            340                 345                 350

Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His
        355                 360                 365

Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val
    370                 375                 380

Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys
385                 390                 395                 400
```

```
Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro
                405                 410                 415

Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser
            420                 425                 430

Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro
        435                 440                 445

Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val Ile
    450                 455                 460

Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp
465                 470                 475                 480

Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys
                485                 490                 495

Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu
            500                 505                 510

Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile
        515                 520                 525

Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys
    530                 535                 540

Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn
545                 550                 555                 560

Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His
                565                 570                 575

Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys
            580                 585                 590

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
        595                 600                 605

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
```

```
    610                 615                 620

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
625                 630                 635                 640

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
                645                 650                 655

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
            660                 665                 670

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
        675                 680                 685

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
    690                 695                 700

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
705                 710                 715                 720

Ser Ser His His His His His His
                725


<210> 431
<211> 947
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 431
Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr
1               5                   10                  15

Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr
            20                  25                  30

Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala
        35                  40                  45
```

```
Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp
    50                  55                  60

Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg
65                  70                  75                  80

Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys
                85                  90                  95

Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu
            100                 105                 110

Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe
        115                 120                 125

Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile
    130                 135                 140

Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala
145                 150                 155                 160

Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu
                165                 170                 175

Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu
            180                 185                 190

Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly
        195                 200                 205

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val
    210                 215                 220

Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile
225                 230                 235                 240

Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln
                245                 250                 255

Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr
            260                 265                 270
```

```
Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn
        275                 280                 285

Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser
    290                 295                 300

Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn
305                 310                 315                 320

Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val
                325                 330                 335

His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg
            340                 345                 350

Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
        355                 360                 365

Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr
    370                 375                 380

Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr
385                 390                 395                 400

Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala
                405                 410                 415

Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp
            420                 425                 430

Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg
        435                 440                 445

Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys
    450                 455                 460

Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu
465                 470                 475                 480
```

```
Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe
                485                 490                 495

Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile
            500                 505                 510

Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala
        515                 520                 525

Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu
    530                 535                 540

Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu
545                 550                 555                 560

Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly
                565                 570                 575

Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr Val
            580                 585                 590

Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile
        595                 600                 605

Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln
    610                 615                 620

Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr
625                 630                 635                 640

Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn
                645                 650                 655

Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser
            660                 665                 670

Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn
        675                 680                 685

Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val
    690                 695                 700
```

```
His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg
705                 710                 715                 720

Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
                725                 730                 735

Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr
            740                 745                 750

Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr
        755                 760                 765

Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala
    770                 775                 780

Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp
785                 790                 795                 800

Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg
                805                 810                 815

Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr Lys
            820                 825                 830

Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu
        835                 840                 845

Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe
    850                 855                 860

Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile
865                 870                 875                 880

Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala
                885                 890                 895

Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu
            900                 905                 910
```

```
Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu
        915                 920                 925


Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala His His His
    930                 935                 940


His His His
945


<210> 432
<211> 1574
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 432
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1               5                   10                  15


Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20                  25                  30


Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
        35                  40                  45


Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50                  55                  60


Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65                  70                  75                  80


Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85                  90                  95


Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100                 105                 110


Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125
```

```
Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        195                 200                 205

Ser Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp Leu
    210                 215                 220

Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg
225                 230                 235                 240

Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu Ala
                245                 250                 255

Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro Glu
            260                 265                 270

Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn
        275                 280                 285

Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val Thr
    290                 295                 300

Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser Ala
305                 310                 315                 320

Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr
                325                 330                 335

Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln
```

```
            340                 345                 350

Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro Lys
        355                 360                 365

Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln Phe
    370                 375                 380

Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr
385                 390                 395                 400

Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly
                405                 410                 415

Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser His Gly Thr
            420                 425                 430

Val Ile Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly
        435                 440                 445

Ile Asp Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp
    450                 455                 460

Gln Lys Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe
465                 470                 475                 480

Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn
                485                 490                 495

Asn Ile Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn
            500                 505                 510

Ser Lys Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val
        515                 520                 525

Asn Asn Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val
    530                 535                 540

Val His Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser
545                 550                 555                 560
```

```
Arg Cys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
                565                 570                 575

Ser Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly
            580                 585                 590

Glu Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu
        595                 600                 605

Gln Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr
    610                 615                 620

Asp Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp
625                 630                 635                 640

Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn
                645                 650                 655

Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu
            660                 665                 670

Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser
        675                 680                 685

Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe
    690                 695                 700

Lys Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala
705                 710                 715                 720

Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu
                725                 730                 735

Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu
            740                 745                 750

Ser Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val
        755                 760                 765

Ser Ser Val Arg Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
```

```
    770                 775                 780

Gly Ser Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp
785                 790                 795                 800

Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val
                805                 810                 815

Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu
            820                 825                 830

Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro
        835                 840                 845

Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu
    850                 855                 860

Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val
865                 870                 875                 880

Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser
                885                 890                 895

Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu
            900                 905                 910

Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys
        915                 920                 925

Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro
    930                 935                 940

Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln
945                 950                 955                 960

Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser
                965                 970                 975

Thr Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala Ser
            980                 985                 990
```

```
Gly Gly Pro Gly Pro Ala Gly Met  Lys Gly Leu Pro Gly  Ser His Gly
        995                 1000                1005


Thr Val  Ile Glu Ser Leu Glu  Ser Leu Asn Asn Tyr  Phe Asn Ser
    1010                1015                1020


Ser Gly  Ile Asp Val Glu Glu  Lys Ser Leu Phe Leu  Asp Ile Trp
    1025                1030                1035


Arg Asn  Trp Gln Lys Asp Gly  Asp Met Lys Ile Leu  Gln Ser Gln
    1040                1045                1050


Ile Ile  Ser Phe Tyr Leu Arg  Leu Phe Glu Val Leu  Lys Asp Asn
    1055                1060                1065


Gln Ala  Ile Ser Asn Asn Ile  Ser Val Ile Glu Ser  His Leu Ile
    1070                1075                1080


Thr Thr  Phe Phe Ser Asn Ser  Lys Ala Lys Lys Asp  Ala Phe Met
    1085                1090                1095


Ser Ile  Ala Lys Phe Glu Val  Asn Asn Pro Gln Val  Gln Arg Gln
    1100                1105                1110


Ala Phe  Asn Glu Leu Ile Arg  Val Val His Gln Leu  Leu Pro Glu
    1115                1120                1125


Ser Ser  Leu Arg Lys Arg Lys  Arg Ser Arg Cys Ser  Gly Gly Pro
    1130                1135                1140


Gly Pro  Ala Gly Met Lys Gly  Leu Pro Gly Ser Glu  Ala His Lys
    1145                1150                1155


Ser Glu  Ile Ala His Arg Tyr  Asn Asp Leu Gly Glu  Gln His Phe
    1160                1165                1170


Lys Gly  Leu Val Leu Ile Ala  Phe Ser Gln Tyr Leu  Gln Lys Cys
    1175                1180                1185


Ser Tyr  Asp Glu His Ala Lys  Leu Val Gln Glu Val  Thr Asp Phe
```

```
    1190                1195                1200

Ala Lys  Thr Cys Val Ala Asp  Glu Ser Ala Ala Asn  Cys Asp Lys
    1205                1210                1215

Ser Leu  His Thr Leu Phe Gly  Asp Lys Leu Cys Ala  Ile Pro Asn
    1220                1225                1230

Leu Arg  Glu Asn Tyr Gly Glu  Leu Ala Asp Cys Cys  Thr Lys Gln
    1235                1240                1245

Glu Pro  Glu Arg Asn Glu Cys  Phe Leu Gln His Lys  Asp Asp Asn
    1250                1255                1260

Pro Ser  Leu Pro Pro Phe Glu  Arg Pro Glu Ala Glu  Ala Met Cys
    1265                1270                1275

Thr Ser  Phe Lys Glu Asn Pro  Thr Thr Phe Met Gly  His Tyr Leu
    1280                1285                1290

His Glu  Val Ala Arg Arg His  Pro Tyr Phe Tyr Ala  Pro Glu Leu
    1295                1300                1305

Leu Tyr  Tyr Ala Glu Gln Tyr  Asn Glu Ile Leu Thr  Gln Cys Cys
    1310                1315                1320

Ala Glu  Ala Asp Lys Glu Ser  Cys Leu Thr Pro Lys  Leu Asp Gly
    1325                1330                1335

Val Lys  Glu Lys Ala Leu Val  Ser Ser Val Arg Gln  Gly Gly Gly
    1340                1345                1350

Gly Ser  Gly Gly Gly Gly Ser  Gly Gly Ser Leu Val  Glu Glu Pro
    1355                1360                1365

Lys Asn  Leu Val Lys Thr Asn  Cys Asp Leu Tyr Glu  Lys Leu Gly
    1370                1375                1380

Glu Tyr  Gly Phe Gln Asn Ala  Ile Leu Val Arg Tyr  Thr Gln Lys
    1385                1390                1395
```

```
Ala Pro  Gln Val Ser Thr Pro  Thr Leu Val Glu Ala  Ala Arg Asn
    1400                 1405                 1410

Leu Gly  Arg Val Gly Thr Lys  Cys Cys Thr Leu Pro  Glu Asp Gln
    1415                 1420                 1425

Arg Leu  Pro Cys Val Glu Asp  Tyr Leu Ser Ala Ile  Leu Asn Arg
    1430                 1435                 1440

Val Cys  Leu Leu His Glu Lys  Thr Pro Val Ser Glu  His Val Thr
    1445                 1450                 1455

Lys Cys  Cys Ser Gly Ser Leu  Val Glu Arg Arg Pro  Cys Phe Ser
    1460                 1465                 1470

Ala Leu  Thr Val Asp Glu Thr  Tyr Val Pro Lys Glu  Phe Lys Ala
    1475                 1480                 1485

Glu Thr  Phe Thr Phe His Ser  Asp Ile Cys Thr Leu  Pro Glu Lys
    1490                 1495                 1500

Glu Lys  Gln Ile Lys Lys Gln  Thr Ala Leu Ala Glu  Leu Val Lys
    1505                 1510                 1515

His Lys  Pro Lys Ala Thr Ala  Glu Gln Leu Lys Thr  Val Met Asp
    1520                 1525                 1530

Asp Phe  Ala Gln Phe Leu Asp  Thr Cys Cys Lys Ala  Ala Asp Lys
    1535                 1540                 1545

Asp Thr  Cys Phe Ser Thr Glu  Gly Pro Asn Leu Val  Thr Arg Cys
    1550                 1555                 1560

Lys Asp  Ala Leu Ala His His  His His His His
    1565                 1570
```

<210> 433
<211> 745
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 433
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro Gly
115 120 125

Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly
130 135 140

Gly Gly Ser His Gly Thr Val Ile Glu Ser Leu Glu Ser Leu Asn Asn
145 150 155 160

Tyr Phe Asn Ser Ser Gly Ile Asp Val Glu Glu Lys Ser Leu Phe Leu
165 170 175

Asp Ile Trp Arg Asn Trp Gln Lys Asp Gly Asp Met Lys Ile Leu Gln
180 185 190

```
Ser Gln Ile Ile Ser Phe Tyr Leu Arg Leu Phe Glu Val Leu Lys Asp
        195                 200                 205

Asn Gln Ala Ile Ser Asn Asn Ile Ser Val Ile Glu Ser His Leu Ile
    210                 215                 220

Thr Thr Phe Phe Ser Asn Ser Lys Ala Lys Lys Asp Ala Phe Met Ser
225                 230                 235                 240

Ile Ala Lys Phe Glu Val Asn Asn Pro Gln Val Gln Arg Gln Ala Phe
                245                 250                 255

Asn Glu Leu Ile Arg Val Val His Gln Leu Leu Pro Glu Ser Ser Leu
            260                 265                 270

Arg Lys Arg Lys Arg Ser Arg Cys Gly Gly Gly Gly Ser Gly Gly Gly
        275                 280                 285

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gly
    290                 295                 300

Gly Gly Gly Ser Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly
305                 310                 315                 320

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
                325                 330                 335

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
            340                 345                 350

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        355                 360                 365

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    370                 375                 380

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
385                 390                 395                 400

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
                405                 410                 415
```

```
Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
            420                 425                 430

Gly Gly Gly Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        435                 440                 445

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser His Gly Thr Val Ile
    450                 455                 460

Glu Ser Leu Glu Ser Leu Asn Asn Tyr Phe Asn Ser Ser Gly Ile Asp
465                 470                 475                 480

Val Glu Glu Lys Ser Leu Phe Leu Asp Ile Trp Arg Asn Trp Gln Lys
                485                 490                 495

Asp Gly Asp Met Lys Ile Leu Gln Ser Gln Ile Ile Ser Phe Tyr Leu
            500                 505                 510

Arg Leu Phe Glu Val Leu Lys Asp Asn Gln Ala Ile Ser Asn Asn Ile
        515                 520                 525

Ser Val Ile Glu Ser His Leu Ile Thr Thr Phe Phe Ser Asn Ser Lys
    530                 535                 540

Ala Lys Lys Asp Ala Phe Met Ser Ile Ala Lys Phe Glu Val Asn Asn
545                 550                 555                 560

Pro Gln Val Gln Arg Gln Ala Phe Asn Glu Leu Ile Arg Val Val His
                565                 570                 575

Gln Leu Leu Pro Glu Ser Ser Leu Arg Lys Arg Lys Arg Ser Arg Cys
            580                 585                 590

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro Gly Pro Ala Gly
        595                 600                 605

Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
    610                 615                 620
```

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
625                 630                 635                 640


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
                645                 650                 655


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
            660                 665                 670


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
        675                 680                 685


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
    690                 695                 700


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
705                 710                 715                 720


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
                725                 730                 735


Val Ser Ser His His His His His His
            740                 745


<210> 434
<211> 936
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 434
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
```

```
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480
```

```
Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
```

```
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910
```

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser His His His His His His
930 935

<210> 435
<211> 1405
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 435
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
20 25 30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65 70 75 80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
100 105 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
115 120 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
130 135 140

```
Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350
```

```
Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575
```

```
Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Gly Pro Ala Gly
            580                 585                 590

Met Lys Gly Leu Pro Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr
        595                 600                 605

Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val
    610                 615                 620

Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp
625                 630                 635                 640

Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val
                645                 650                 655

Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu
            660                 665                 670

Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile
        675                 680                 685

Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr
    690                 695                 700

Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp
705                 710                 715                 720

Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser
                725                 730                 735

Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu
            740                 745                 750

Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val
        755                 760                 765

Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro
    770                 775                 780
```

```
Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr
785                 790                 795                 800

Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys
                805                 810                 815

Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser
            820                 825                 830

Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu
        835                 840                 845

Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp
    850                 855                 860

Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn
865                 870                 875                 880

Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp
                885                 890                 895

Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly
            900                 905                 910

Gly Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro
        915                 920                 925

Ala Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp
    930                 935                 940

Met Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala
945                 950                 955                 960

Glu Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu
                965                 970                 975

Lys Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala
            980                 985                 990

Thr Arg Glu Thr Ser Ser Thr Thr  Arg Gly Ser Cys Leu  Pro Pro Gln
        995                 1000                1005
```

```
Lys Thr  Ser Leu Met Met Thr  Leu Cys Leu Gly Ser  Ile Tyr Glu
    1010                1015                1020

Asp Leu  Lys Met Tyr Gln Thr  Glu Phe Gln Ala Ile  Asn Ala Ala
    1025                1030                1035

Leu Gln  Asn His Asn His Gln  Gln Ile Ile Leu Asp  Lys Gly Met
    1040                1045                1050

Leu Val  Ala Ile Asp Glu Leu  Met Gln Ser Leu Asn  His Asn Gly
    1055                1060                1065

Glu Thr  Leu Arg Gln Lys Pro  Pro Val Gly Glu Ala  Asp Pro Tyr
    1070                1075                1080

Arg Val  Lys Met Lys Leu Cys  Ile Leu Leu His Ala  Phe Ser Thr
    1085                1090                1095

Arg Val  Val Thr Ile Asn Arg  Val Met Gly Tyr Leu  Ser Ser Ala
    1100                1105                1110

Ser Gly  Gly Pro Gly Pro Ala  Gly Met Lys Gly Leu  Pro Gly Ser
    1115                1120                1125

Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser
    1130                1135                1140

Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser
    1145                1150                1155

Gln Ser  Val Leu Thr Gln Pro  Pro Ser Val Ser Gly  Ala Pro Gly
    1160                1165                1170

Gln Arg  Val Thr Ile Ser Cys  Ser Gly Ser Arg Ser  Asn Ile Gly
    1175                1180                1185

Ser Asn  Thr Val Lys Trp Tyr  Gln Gln Leu Pro Gly  Thr Ala Pro
    1190                1195                1200
```

```
Lys Leu  Leu Ile Tyr Tyr Asn  Asp Gln Arg Pro Ser  Gly Val Pro
    1205                 1210                 1215

Asp Arg  Phe Ser Gly Ser Lys  Ser Gly Thr Ser Ala  Ser Leu Ala
    1220                 1225                 1230

Ile Thr  Gly Leu Gln Ala Glu  Asp Glu Ala Asp Tyr  Tyr Cys Gln
    1235                 1240                 1245

Ser Tyr  Asp Arg Tyr Thr His  Pro Ala Leu Leu Phe  Gly Thr Gly
    1250                 1255                 1260

Thr Lys  Val Thr Val Leu Gly  Gly Gly Gly Ser Gly  Gly Gly Gly
    1265                 1270                 1275

Ser Gly  Gly Gly Gly Ser Gln  Val Gln Leu Val Glu  Ser Gly Gly
    1280                 1285                 1290

Gly Val  Val Gln Pro Gly Arg  Ser Leu Arg Leu Ser  Cys Ala Ala
    1295                 1300                 1305

Ser Gly  Phe Thr Phe Ser Ser  Tyr Gly Met His Trp  Val Arg Gln
    1310                 1315                 1320

Ala Pro  Gly Lys Gly Leu Glu  Trp Val Ala Phe Ile  Arg Tyr Asp
    1325                 1330                 1335

Gly Ser  Asn Lys Tyr Tyr Ala  Asp Ser Val Lys Gly  Arg Phe Thr
    1340                 1345                 1350

Ile Ser  Arg Asp Asn Ser Lys  Asn Thr Leu Tyr Leu  Gln Met Asn
    1355                 1360                 1365

Ser Leu  Arg Ala Glu Asp Thr  Ala Val Tyr Tyr Cys  Lys Thr His
    1370                 1375                 1380

Gly Ser  His Asp Asn Trp Gly  Gln Gly Thr Met Val  Thr Val Ser
    1385                 1390                 1395

Ser His  His His His His His
    1400                 1405
```

<210> 436
<211> 1405
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 436
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala

```
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380
```

```
Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
```

595 600 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
610 615 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625 630 635 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
645 650 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
660 665 670

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
675 680 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
690 695 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705 710 715 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
725 730 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
740 745 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
755 760 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
770 775 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785 790 795 800

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
805 810 815

```
Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln
            820                 825                 830

His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys
        835                 840                 845

Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe
    850                 855                 860

Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser
865                 870                 875                 880

Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg
                885                 890                 895

Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu
            900                 905                 910

Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro
        915                 920                 925

Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu
    930                 935                 940

Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg
945                 950                 955                 960

His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr
                965                 970                 975

Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys
            980                 985                 990

Leu Thr Pro Lys Leu Asp Gly Val  Lys Glu Lys Ala Leu  Val Ser Ser
        995                 1000                1005

Val Arg  Gln Arg Met Lys Cys  Ser Ser Met Gln Lys  Phe Gly Glu
    1010                1015                1020

Arg Ala  Phe Lys Ala Trp Ala  Val Ala Arg Leu Ser  Gln Thr Phe
```

```
    1025                1030                1035

Pro Asn  Ala Asp Phe Ala Glu  Ile Thr Lys Leu Ala  Thr Asp Leu
    1040                1045                1050

Thr Lys  Val Asn Lys Glu Cys  Cys His Gly Asp Leu  Leu Glu Cys
    1055                1060                1065

Ala Asp  Asp Arg Ala Glu Leu  Ala Lys Tyr Met Cys  Glu Asn Gln
    1070                1075                1080

Ala Thr  Ile Ser Ser Lys Leu  Gln Thr Cys Cys Asp  Lys Pro Leu
    1085                1090                1095

Leu Lys  Lys Ala His Cys Leu  Ser Glu Val Glu His  Asp Thr Met
    1100                1105                1110

Pro Ala  Asp Leu Pro Ala Ile  Ala Ala Asp Phe Val  Glu Asp Gln
    1115                1120                1125

Glu Val  Cys Lys Asn Tyr Ala  Glu Ala Lys Asp Val  Phe Leu Gly
    1130                1135                1140

Thr Phe  Leu Tyr Glu Tyr Ser  Arg Arg His Pro Asp  Tyr Ser Val
    1145                1150                1155

Ser Leu  Leu Leu Arg Leu Ala  Lys Lys Tyr Glu Ala  Thr Leu Glu
    1160                1165                1170

Lys Cys  Cys Ala Glu Ala Asn  Pro Pro Ala Cys Tyr  Gly Thr Val
    1175                1180                1185

Leu Ala  Glu Phe Gln Pro Leu  Val Glu Glu Pro Lys  Asn Leu Val
    1190                1195                1200

Lys Thr  Asn Cys Asp Leu Tyr  Glu Lys Leu Gly Glu  Tyr Gly Phe
    1205                1210                1215

Gln Asn  Ala Ile Leu Val Arg  Tyr Thr Gln Lys Ala  Pro Gln Val
    1220                1225                1230
```

```
Ser Thr  Pro Thr Leu Val Glu  Ala Ala Arg Asn Leu  Gly Arg Val
    1235                1240                1245

Gly Thr  Lys Cys Cys Thr Leu  Pro Glu Asp Gln Arg  Leu Pro Cys
    1250                1255                1260

Val Glu  Asp Tyr Leu Ser Ala  Ile Leu Asn Arg Val  Cys Leu Leu
    1265                1270                1275

His Glu  Lys Thr Pro Val Ser  Glu His Val Thr Lys  Cys Cys Ser
    1280                1285                1290

Gly Ser  Leu Val Glu Arg Arg  Pro Cys Phe Ser Ala  Leu Thr Val
    1295                1300                1305

Asp Glu  Thr Tyr Val Pro Lys  Glu Phe Lys Ala Glu  Thr Phe Thr
    1310                1315                1320

Phe His  Ser Asp Ile Cys Thr  Leu Pro Glu Lys Glu  Lys Gln Ile
    1325                1330                1335

Lys Lys  Gln Thr Ala Leu Ala  Glu Leu Val Lys His  Lys Pro Lys
    1340                1345                1350

Ala Thr  Ala Glu Gln Leu Lys  Thr Val Met Asp Asp  Phe Ala Gln
    1355                1360                1365

Phe Leu  Asp Thr Cys Cys Lys  Ala Ala Asp Lys Asp  Thr Cys Phe
    1370                1375                1380

Ser Thr  Glu Gly Pro Asn Leu  Val Thr Arg Cys Lys  Asp Ala Leu
    1385                1390                1395

Ala His  His His His His His
    1400                1405
```

<210> 437
<211> 1048
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 437
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
165 170 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
180 185 190

```
Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
225                 230                 235                 240

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
                245                 250                 255

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
            260                 265                 270

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
        275                 280                 285

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
    290                 295                 300

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
305                 310                 315                 320

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
                325                 330                 335

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
            340                 345                 350

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
        355                 360                 365

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
    370                 375                 380

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
385                 390                 395                 400

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
                405                 410                 415
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
            420                 425                 430

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
        435                 440                 445

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
    450                 455                 460

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
465                 470                 475                 480

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
                485                 490                 495

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
            500                 505                 510

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
        515                 520                 525

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
    530                 535                 540

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
545                 550                 555                 560

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
                565                 570                 575

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
            580                 585                 590

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
        595                 600                 605

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
    610                 615                 620
```

```
Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
625                 630                 635                 640

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
                645                 650                 655

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
            660                 665                 670

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
        675                 680                 685

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
    690                 695                 700

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
705                 710                 715                 720

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
                725                 730                 735

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
            740                 745                 750

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
        755                 760                 765

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
    770                 775                 780

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
785                 790                 795                 800

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
                805                 810                 815

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
            820                 825                 830

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
        835                 840                 845
```

```
Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
    850                 855                 860

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
865                 870                 875                 880

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
                885                 890                 895

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
            900                 905                 910

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
        915                 920                 925

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
    930                 935                 940

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
945                 950                 955                 960

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
                965                 970                 975

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
            980                 985                 990

Gly Arg Phe Thr Ile Ser Arg Asp  Asn Ser Lys Asn Thr  Leu Tyr Leu
        995                 1000                1005

Gln Met  Asn Ser Leu Arg Ala  Glu Asp Thr Ala Val  Tyr Tyr Cys
    1010                1015                1020

Lys Thr  His Gly Ser His Asp  Asn Trp Gly Gln Gly  Thr Met Val
    1025                1030                1035

Thr Val  Ser Ser His His His  His His His
    1040                1045
```

<210> 438
<211> 1048
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 438
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165 170 175

```
Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
```

385 390 395 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
405 410 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
420 425 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
435 440 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
450 455 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465 470 475 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
485 490 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
500 505 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
515 520 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
530 535 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545 550 555 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
565 570 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
580 585 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
595 600 605

```
Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Val
                805                 810                 815

Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val
```

```
            820                 825                 830

Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile
        835                 840                 845

Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp
    850                 855                 860

Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His
865                 870                 875                 880

Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
                885                 890                 895

Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys
            900                 905                 910

Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu
        915                 920                 925

Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr
    930                 935                 940

Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu
945                 950                 955                 960

Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp
                965                 970                 975

Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile
            980                 985                 990

Met Asp Thr Asp Gly Ser Tyr Phe  Val Tyr Ser Lys Leu  Asn Val Gln
        995                 1000                1005

Lys Ser  Asn Trp Glu Ala Gly  Asn Thr Phe Thr Cys  Ser Val Leu
    1010                1015                1020

His Glu  Gly Leu His Asn His  His Thr Glu Lys Ser  Leu Ser His
    1025                1030                1035
```

Ser Pro Gly Lys His His His His His His
    1040   1045

<210> 439
<211> 936
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 439
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20   25   30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590
```

```
Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser His His His His His His
    930                 935


<210> 440
<211> 817
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 440
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
```

```
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

675 680 685

Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly
690 695 700

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser Ser
705 710 715 720

Val Tyr Asp Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Asp Arg Glu
725 730 735

Phe Val Ala Arg Ile Thr Glu Ser Ala Arg Asn Thr Arg Tyr Ala Asp
740 745 750

Ser Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr
755 760 765

Val Tyr Leu Gln Met Asn Asn Leu Glu Leu Glu Asp Ala Ala Val Tyr
770 775 780

Tyr Cys Ala Ala Asp Pro Gln Thr Val Val Val Gly Thr Pro Asp Tyr
785 790 795 800

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser His His His His His
805 810 815

His

<210> 441
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 441
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

```
Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130                 135                 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240
```

```
Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    290                 295                 300

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Cys Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
            420                 425                 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
        435                 440                 445
```

```
Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
    450                 455                 460


Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
465                 470                 475                 480


Gly Lys Cys Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
                485                 490                 495


Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
            500                 505                 510


Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
        515                 520                 525


Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
    530                 535                 540


Glu Ile Lys
545


<210> 442
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      Sortase A cleavage site"


<220>
<221> MOD_RES
<222> (3)..(3)
<223> Any amino acid

<400> 442
Leu Pro Xaa Thr Gly
1               5


<210> 443
<211> 25
<212> PRT
<213> Artificial Sequence
```

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<220>
<221> SITE
<222> (1)..(25)
<223> /note="This sequence may encompass 1-5 'Gly Gly Gly Gly Ser'
repeating units"

<400> 443
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

<210> 444
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<220>
<221> SITE
<222> (1)..(20)
<223> /note="This sequence may encompass 1-5 'Gly Gly Gly Ser'
repeating units"

<400> 444
Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
1 5 10 15

Gly Gly Gly Ser
20

<210> 445
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source

<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 445
Gly Pro Leu Gly Val Arg Gly
1 5

<210> 446
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 446
Ile Pro Val Ser Leu Arg Ser Gly
1 5

<210> 447
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 447
Val Pro Leu Ser Leu Tyr Ser Gly
1 5

<210> 448
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 448
Ser Gly Glu Ser Pro Ala Tyr Tyr Thr Ala
1 5 10

<210> 449

<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 449
Gly Gly Gly Gly Ser
1 5

<210> 450
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 450
Gly Ser Gly Ser Gly Ser
1 5

<210> 451
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 451
Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Thr
1 5 10

<210> 452
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 452
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 453
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 453
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser
20

<210> 454
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 454
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

```
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
```

```
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510
```

```
Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
```

```
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 455
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 455
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

```
Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380
```

```
Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605
```

```
Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815
```

```
Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930


<210> 456
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 456
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
```

```
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480
```

```
Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
```

```
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910
```

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 457
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 457
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575
```

```
Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780
```

```
Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 458
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 458
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
```

```
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445
```

```
Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

660 665 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
675 680 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
690 695 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705 710 715 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
725 730 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
740 745 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
755 760 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
770 775 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785 790 795 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
805 810 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

```
Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 459
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 459
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110
```

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540
```

```
Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750
```

```
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 460
<211> 934
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 460
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser

```
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415
```

```
Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
```

625 630 635 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
645 650 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
660 665 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
675 680 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
690 695 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705 710 715 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
725 730 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
740 745 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
755 760 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
770 775 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785 790 795 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
805 810 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

```
Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 461
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 461

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80
```

```
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510
```

```
Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720
```

```
Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 462
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 462
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val

```
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380
```

```
Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
```

595 600 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
610 615 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625 630 635 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
645 650 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
660 665 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
675 680 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
690 695 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705 710 715 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
725 730 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
740 745 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
755 760 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
770 775 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785 790 795 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
805 810 815

```
Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 463
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 463
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480
```

```
Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685
```

```
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910
```

```
Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 464
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 464
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125


Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
```

```
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
```

```
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780
```

```
Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 465
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 465
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445
```

```
Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655
```

```
Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 466
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 466
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
```

```
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
```

```
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750
```

```
Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 467
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 467
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415
```

```
Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620
```

```
His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845
```

```
Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 468
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 468

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
```

```
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
```

```
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720
```

```
Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
```

930

<210> 469
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 469
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380
```

```
Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590
```

```
Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815
```

```
Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930


<210> 470
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 470
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
```

```
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
```

```
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685
```

```
Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
```

900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 471
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 471
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780
```

```
Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 472
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 472
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
```

```
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655
```

```
Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
```

865 870 875 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 473
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 473
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525
```

```
Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750
```

```
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 474
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 474
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
```

```
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620
```

```
Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
```

```
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 475
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 475
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720
```

```
Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925
```

Ser Ser
930

<210> 476
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 476
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
```

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    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590
```

```
Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

805 810 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 477
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 477
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685
```

```
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895
```

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 478
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 478
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
```

```
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
```

```
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930


<210> 479
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 479
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```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655
```

```
Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860
```

```
Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880


Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 480
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 480
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
```

```
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525
```

```
Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
```

```
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 481
<211> 934
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 481
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620
```

```
Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830
```

```
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845


Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860


Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 482
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 482
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
```

```
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
```

```
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925
```

Ser Ser
930

<210> 483
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 483
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590
```

```
Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800
```

```
Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815


Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830


Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845


Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860


Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880


Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 484
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 484
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
```

```
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895
```

```
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 485
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 485
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125
```

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560
```

```
Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765
```

```
Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 486
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 486
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20   25   30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165   170   175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180   185   190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195   200   205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile

```
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
```

```
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860
```

```
Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 487
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 487
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525
```

```
Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735
```

```
Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 488
<211> 930

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 488
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp

```
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
```

```
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830
```

```
Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 489
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 489
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495
```

```
Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700
```

```
Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925
```

Met Val Thr Val Ser Ser
    930

<210> 490
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 490
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20   25   30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr

```
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
```

```
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 491
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 491

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460
```

```
Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895
```

```
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 492
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 492
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
```

```
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
```

```
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765
```

```
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 493
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 493

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460
```

```
Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895
```

```
Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 494
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 494
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125


Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140


Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
```

```
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
```

```
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815


Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830


Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845


Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860


Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880


Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895


Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 495
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 495
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495
```

```
Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700
```

```
Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910

<210> 496
<211> 906
```

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 496
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp

```
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
```

```
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830
```

```
Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 497
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 497

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525
```

```
Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735
```

```
Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 498
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 498
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20   25   30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165   170   175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180   185   190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195   200   205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile

```
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
```

```
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860
```

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865 870 875 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
885 890 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 499
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 499
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560
```

```
Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765
```

```
Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 500
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 500
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
```

```
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895
```

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 501
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 501
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590
```

```
Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800
```

```
Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815


Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830


Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845


Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860


Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 502
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 502
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
```

```
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
```

```
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 503
<211> 910
<212> PRT
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<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 503
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620
```

```
Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830
```

```
Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845


Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860


Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 504
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 504
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
```

```
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525
```

```
Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
```

```
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 505
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 505
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```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655
```

```
Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860
```

```
Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 506
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 506
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125
```

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
```

```
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
```

```
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 507
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 507
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460
```

```
Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685
```

```
Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895
```

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905 910

<210> 508
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 508
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
```

```
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590
```

```
Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
```

```
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 509
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 509
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

```
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495
```

```
Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720
```

```
Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910
```

<210> 510
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 510
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
```

```
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620
```

```
His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
```

```
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 511
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 511
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525
```

```
Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750
```

```
Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910
```

<210> 512
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 512

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
```

```
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655
```

```
Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
```

865 870 875 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
885 890 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 513
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 513
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560
```

```
Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780
```

```
Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800


Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815


Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830


Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845


Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860


Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 514
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 514
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
```

```
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
```

```
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685
```

```
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
```

900 905

<210> 515
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 515
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380
```

```
Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590
```

```
Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815
```

```
Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 516
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 516
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
```

```
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
```

```
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720
```

```
Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 517
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 517
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415
```

```
Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620
```

```
Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845
```

```
Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910

<210> 518
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 518
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
```

```
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
```

```
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750
```

```
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765


Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780


Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815


Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830


Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845


Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860


Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880


Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895


Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 519
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 519
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445
```

```
Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655
```

```
Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880
```

```
Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 520
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 520
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            100                 105                 110


Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
        115                 120                 125


Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
```

```
    130                 135                 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145                 150                 155                 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
                165                 170                 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215


<210> 521
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 521
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
```

```
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            100                 105                 110


Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
        115                 120                 125


Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140


Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145                 150                 155                 160


Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
                165                 170                 175


Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190


Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205


Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215


<210> 522
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 522
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30
```

```
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            100                 105                 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
        115                 120                 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145                 150                 155                 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
                165                 170                 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215
```

<210> 523
<211> 915
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 523
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
165 170 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
180 185 190

```
Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415
```

```
Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620
```

```
Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845
```

```
Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
865                 870                 875                 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                885                 890                 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            900                 905                 910

Val Ser Ser
        915


<210> 524
<211> 919
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 524
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
```

```
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300
```

```
Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
```

```
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735
```

```
Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910

Thr Met Val Thr Val Ser Ser
        915
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<210> 525
<211> 915
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 525
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
165 170 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
180 185 190

```
Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415
```

```
Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620
```

```
Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845
```

```
Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
865                 870                 875                 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                885                 890                 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            900                 905                 910

Val Ser Ser
        915


<210> 526
<211> 919
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 526
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
```

```
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300
```

```
Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
```

```
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735
```

```
Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910

Thr Met Val Thr Val Ser Ser
        915
```

<210> 527
<211> 891
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 527
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
165 170 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
180 185 190

```
Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415
```

```
Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620
```

```
Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
                805                 810                 815

Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845
```

```
Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865                 870                 875                 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890

<210> 528
<211> 895
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 528
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
```

```
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335
```

```
Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
```

```
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765
```

```
Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830

Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845

Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850                 855                 860

Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865                 870                 875                 880

Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890                 895


<210> 529
<211> 891
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 529
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45
```

```
Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255
```

```
Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480
```

```
Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685
```

```
Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
                805                 810                 815

Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845

Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865                 870                 875                 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890
```

<210> 530
<211> 895

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 530
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
165 170 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala

```
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400
```

```
Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
```

```
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830
```

```
Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845


Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850                 855                 860


Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865                 870                 875                 880


Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890                 895


<210> 531
<211> 915
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 531
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80


Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95


Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110
```

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540
```

```
Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750
```

```
Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
865                 870                 875                 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                885                 890                 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            900                 905                 910

Val Ser Ser
        915


<210> 532
<211> 919
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 532
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu

```
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430
```

```
Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
```

```
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860
```

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880


Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895


Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910


Thr Met Val Thr Val Ser Ser
        915


<210> 533
<211> 915
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 533
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80


Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95


Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110
```

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540
```

```
Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750
```

```
Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
865                 870                 875                 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                885                 890                 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            900                 905                 910

Val Ser Ser
        915


<210> 534
<211> 919
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 534
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu

```
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430
```

```
Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
```

```
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860
```

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880


Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895


Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910


Thr Met Val Thr Val Ser Ser
        915


<210> 535
<211> 891
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 535
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80


Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95


Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110
```

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540
```

```
Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750
```

```
Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765


Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780


Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800


Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
                805                 810                 815


Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830


Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845


Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860


Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865                 870                 875                 880


Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890


<210> 536
<211> 895
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 536
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30
```

```
Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
```

```
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460
```

```
Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
```

```
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830

Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845

Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850                 855                 860

Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865                 870                 875                 880

Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890                 895
```

<210> 537
<211> 891
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 537
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

```
Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380
```

```
Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
    530                 535                 540

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605
```

```
Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
                805                 810                 815
```

```
Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845

Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865                 870                 875                 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890


<210> 538
<211> 895
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 538
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95
```

```
Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser
                405                 410                 415

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525
```

```
Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
```

```
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830

Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845

Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850                 855                 860

Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865                 870                 875                 880

Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890                 895


<210> 539
<211> 427
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 539
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro His Thr Tyr Asn Leu Arg Asn Lys Arg Ala
    130                 135                 140

Leu Lys Val Leu Ala Gln Met Arg Arg Leu Thr Pro Leu Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Leu Glu Lys Val Asp Ala Gln
                165                 170                 175

Gln Ile Gln Lys Ala Gln Ser Ile Pro Val Leu Arg Asp Leu Thr Gln
            180                 185                 190

Gln Ile Leu Asn Leu Phe Ala Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Ala Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Ser Pro
225                 230                 235                 240
```

```
Leu Thr Gln Glu Asp Ser Leu Leu Ala Val Arg Ile Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Phe Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Leu Gly Arg Leu Arg Glu Glu Lys Ala Ser Gly Gly Pro Gly Pro Ala
    290                 295                 300

Gly Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
305                 310                 315                 320

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
                325                 330                 335

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
            340                 345                 350

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        355                 360                 365

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    370                 375                 380

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
385                 390                 395                 400

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
                405                 410                 415

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 540
<211> 427
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 540
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Cys Asp Leu Pro His Thr Tyr Asn Leu Arg Asn Lys Arg Ala
130 135 140

Leu Lys Val Leu Ala Gln Met Arg Arg Leu Thr Pro Leu Ser Cys Leu
145 150 155 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Leu Glu Lys Val Asp Ala Gln
165 170 175

Gln Ile Gln Lys Ala Gln Ser Ile Pro Val Leu Arg Asp Leu Thr Gln
180 185 190

```
Gln Ile Leu Asn Leu Phe Ala Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Ala Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Ser Pro
225                 230                 235                 240

Leu Thr Gln Glu Asp Ser Leu Leu Ala Val Arg Ile Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Phe Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Leu Gly Arg Leu Arg Glu Glu Lys Ala Ser Gly Gly Pro Ala Leu Phe
    290                 295                 300

Lys Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly
305                 310                 315                 320

Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala
                325                 330                 335

Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala
            340                 345                 350

Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg
        355                 360                 365

Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
    370                 375                 380

Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro
385                 390                 395                 400

Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val
```

405 410 415

Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
420 425

<210> 541
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 541
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr
130 135 140

```
Leu Met Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn
                165                 170                 175

Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln
            180                 185                 190

Gln Thr Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp
        195                 200                 205

Glu Thr Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn
    210                 215                 220

Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro
225                 230                 235                 240

Leu Met Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu
        275                 280                 285

Gln Lys Arg Leu Arg Arg Lys Asp Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365
```

```
Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 542
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 542

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
```

```
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr
    130                 135                 140

Leu Met Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn
                165                 170                 175

Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln
            180                 185                 190

Gln Thr Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp
        195                 200                 205

Glu Thr Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn
    210                 215                 220

Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro
225                 230                 235                 240

Leu Met Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu
        275                 280                 285

Gln Lys Arg Leu Arg Arg Lys Asp Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300

Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320
```

```
Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 543
<211> 173
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 543
Cys Asp Leu Pro His Thr Tyr Asn Leu Arg Asn Lys Arg Ala Leu Lys
1               5                   10                  15

Val Leu Ala Gln Met Arg Arg Leu Thr Pro Leu Ser Cys Leu Lys Asp
            20                  25                  30

Arg Lys Asp Phe Gly Phe Pro Leu Glu Lys Val Asp Ala Gln Gln Ile
        35                  40                  45

Gln Lys Ala Gln Ser Ile Pro Val Leu Arg Asp Leu Thr Gln Gln Ile
    50                  55                  60
```

```
Leu Asn Leu Phe Ala Ser Lys Asp Ser Ser Ala Ala Trp Asn Ala Thr
65                  70                  75                  80


Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn Asp Leu
                85                  90                  95


Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Ser Pro Leu Thr
            100                 105                 110


Gln Glu Asp Ser Leu Leu Ala Val Arg Ile Tyr Phe His Arg Ile Thr
        115                 120                 125


Val Phe Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu Val Val
    130                 135                 140


Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val Leu Gly
145                 150                 155                 160


Arg Leu Arg Glu Glu Lys Ala His His His His His His
                165                 170


<210> 544
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 544
Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met
1               5                   10                  15


Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp
            20                  25                  30


Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe
        35                  40                  45


Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln Gln Thr
```

```
    50                  55                  60

Phe Asn Leu Phe Ser Thr Lys Asn Ser Ser Ala Ala Trp Asp Glu Thr
65                  70                  75                  80

Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu
                85                  90                  95

Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met
            100                 105                 110

Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr
        115                 120                 125

Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val
    130                 135                 140

Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu Gln Lys
145                 150                 155                 160

Arg Leu Arg Arg Lys Asp His His His His His His
                165                 170


<210> 545
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 545
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr
    130                 135                 140

Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln
                165                 170                 175

Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln
            180                 185                 190

Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu
        195                 200                 205

Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp
    210                 215                 220

Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val Glu Glu Thr Pro Leu
225                 230                 235                 240

Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile
                245                 250                 255

Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val
            260                 265                 270
```

```
Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln
        275                 280                 285

Glu Ser Leu Arg Ser Lys Glu Ser Gly Gly Pro Gly Pro Ala Gly Leu
    290                 295                 300

Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly
305                 310                 315                 320

Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
                325                 330                 335

Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly
            340                 345                 350

Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr
        355                 360                 365

Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
    370                 375                 380

Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp
385                 390                 395                 400

Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser
                405                 410                 415

Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 546
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 546

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
```

```
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr
    130                 135                 140

Leu Met Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn
                165                 170                 175

Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln
            180                 185                 190

Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp
        195                 200                 205

Glu Thr Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn
    210                 215                 220
```

```
Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro
225                 230                 235                 240

Leu Met Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu
        275                 280                 285

Gln Lys Arg Leu Arg Arg Lys Asp Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 547

<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 547
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Asn Asn Arg Arg Thr
130 135 140

Leu Met Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu
145 150 155 160

Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn
165 170 175

```
Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln
            180                 185                 190

Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp
        195                 200                 205

Glu Thr Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn
    210                 215                 220

Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro
225                 230                 235                 240

Leu Met Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu
        275                 280                 285

Gln Lys Arg Leu Arg Arg Lys Asp Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400
```

```
Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415


Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 548
<211> 171
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 548
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1               5                   10                  15


Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30


Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35                  40                  45


Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60


Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80


Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95


Ala Cys Val Ile Gln Gly Val Gly Val Glu Glu Thr Pro Leu Met Lys
            100                 105                 110


Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125


Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
```

```
    130                 135                 140

Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160

Leu Arg Ser Lys Glu His His His His His His
                165                 170

<210> 549
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 549
Cys Asn Leu Ser Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met
1               5                   10                  15

Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp
            20                  25                  30

Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe
        35                  40                  45

Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln Gln Thr
    50                  55                  60

Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr
65                  70                  75                  80

Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu
                85                  90                  95

Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met
            100                 105                 110

Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr
        115                 120                 125
```

```
Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val
    130                 135                 140

Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu Gln Lys
145                 150                 155                 160

Arg Leu Arg Arg Lys Asp His His His His His His
                165                 170
```

<210> 550
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 550

```
Cys Asp Leu Pro Gln Thr His Ser Leu Asn Asn Arg Arg Thr Leu Met
1               5                   10                  15

Leu Met Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu Lys Asp
            20                  25                  30

Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Gly Asn Gln Phe
        35                  40                  45

Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Met Gln Gln Thr
    50                  55                  60

Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr
65                  70                  75                  80

Leu Leu Glu Lys Phe Tyr Ile Glu Leu Phe Gln Gln Met Asn Asp Leu
                85                  90                  95

Glu Ala Cys Val Ile Gln Glu Val Gly Val Glu Glu Thr Pro Leu Met
            100                 105                 110

Asn Glu Asp Ser Ile Leu Ala Val Lys Lys Tyr Phe Gln Arg Ile Thr
        115                 120                 125
```

Leu Tyr Leu Met Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val
130 135 140

Arg Ala Glu Ile Met Arg Ser Leu Ser Phe Ser Thr Asn Leu Gln Lys
145 150 155 160

Arg Leu Arg Arg Lys Asp His His His His His His
165 170

<210> 551
<211> 1370
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 551
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
20 25 30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65 70 75 80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
100 105 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
115 120 125

```
Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335
```

```
Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560
```

```
Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Ala Leu Phe Lys
            580                 585                 590

Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu
        595                 600                 605

Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser
    610                 615                 620

Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu
625                 630                 635                 640

Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu
                645                 650                 655

Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser
            660                 665                 670

Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu
        675                 680                 685

His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly
    690                 695                 700

Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg
705                 710                 715                 720

Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser
                725                 730                 735

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser
            740                 745                 750

Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly
        755                 760                 765
```

```
Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Ala His Lys
    770                 775                 780

Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys
785                 790                 795                 800

Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr
                805                 810                 815

Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr
            820                 825                 830

Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr
        835                 840                 845

Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr
    850                 855                 860

Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu
865                 870                 875                 880

Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu
                885                 890                 895

Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr
            900                 905                 910

Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr
        915                 920                 925

Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile
    930                 935                 940

Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro
945                 950                 955                 960

Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln
                965                 970                 975

Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys
            980                 985                 990
```

```
Ala Trp Ala Val Ala Arg Leu Ser  Gln Thr Phe Pro Asn  Ala Asp Phe
        995                 1000                1005


Ala Glu  Ile Thr Lys Leu Ala  Thr Asp Leu Thr Lys  Val Asn Lys
    1010                1015                1020


Glu Cys  Cys His Gly Asp Leu  Leu Glu Cys Ala Asp  Asp Arg Ala
    1025                1030                1035


Glu Leu  Ala Lys Tyr Met Cys  Glu Asn Gln Ala Thr  Ile Ser Ser
    1040                1045                1050


Lys Leu  Gln Thr Cys Cys Asp  Lys Pro Leu Leu Lys  Lys Ala His
    1055                1060                1065


Cys Leu  Ser Glu Val Glu His  Asp Thr Met Pro Ala  Asp Leu Pro
    1070                1075                1080


Ala Ile  Ala Ala Asp Phe Val  Glu Asp Gln Glu Val  Cys Lys Asn
    1085                1090                1095


Tyr Ala  Glu Ala Lys Asp Val  Phe Leu Gly Thr Phe  Leu Tyr Glu
    1100                1105                1110


Tyr Ser  Arg Arg His Pro Asp  Tyr Ser Val Ser Leu  Leu Leu Arg
    1115                1120                1125


Leu Ala  Lys Lys Tyr Glu Ala  Thr Leu Glu Lys Cys  Cys Ala Glu
    1130                1135                1140


Ala Asn  Pro Pro Ala Cys Tyr  Gly Thr Val Leu Ala  Glu Phe Gln
    1145                1150                1155


Pro Leu  Val Glu Glu Pro Lys  Asn Leu Val Lys Thr  Asn Cys Asp
    1160                1165                1170


Leu Tyr  Glu Lys Leu Gly Glu  Tyr Gly Phe Gln Asn  Ala Ile Leu
    1175                1180                1185
```

```
Val Arg  Tyr Thr Gln Lys Ala  Pro Gln Val Ser Thr  Pro Thr Leu
    1190                 1195                 1200

Val Glu  Ala Ala Arg Asn Leu  Gly Arg Val Gly Thr  Lys Cys Cys
    1205                 1210                 1215

Thr Leu  Pro Glu Asp Gln Arg  Leu Pro Cys Val Glu  Asp Tyr Leu
    1220                 1225                 1230

Ser Ala  Ile Leu Asn Arg Val  Cys Leu Leu His Glu  Lys Thr Pro
    1235                 1240                 1245

Val Ser  Glu His Val Thr Lys  Cys Cys Ser Gly Ser  Leu Val Glu
    1250                 1255                 1260

Arg Arg  Pro Cys Phe Ser Ala  Leu Thr Val Asp Glu  Thr Tyr Val
    1265                 1270                 1275

Pro Lys  Glu Phe Lys Ala Glu  Thr Phe Thr Phe His  Ser Asp Ile
    1280                 1285                 1290

Cys Thr  Leu Pro Glu Lys Glu  Lys Gln Ile Lys Lys  Gln Thr Ala
    1295                 1300                 1305

Leu Ala  Glu Leu Val Lys His  Lys Pro Lys Ala Thr  Ala Glu Gln
    1310                 1315                 1320

Leu Lys  Thr Val Met Asp Asp  Phe Ala Gln Phe Leu  Asp Thr Cys
    1325                 1330                 1335

Cys Lys  Ala Ala Asp Lys Asp  Thr Cys Phe Ser Thr  Glu Gly Pro
    1340                 1345                 1350

Asn Leu  Val Thr Arg Cys Lys  Asp Ala Leu Ala His  His His His
    1355                 1360                 1365

His His
    1370
```

<210> 552
<211> 1371

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 552
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1   5   10   15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20   25   30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
        35   40   45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50   55   60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65   70   75   80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85   90   95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100   105   110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115   120   125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130   135   140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145   150   155   160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165   170   175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser

```
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400
```

```
Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Ala Leu Phe Lys
            580                 585                 590

Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro His Thr Tyr Asn Leu
        595                 600                 605

Arg Asn Lys Arg Ala Leu Lys Val Leu Ala Gln Met Arg Arg Leu Thr
```

```
    610                 615                 620

Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Leu Glu
625                 630                 635                 640

Lys Val Asp Ala Gln Gln Ile Gln Lys Ala Gln Ser Ile Pro Val Leu
                645                 650                 655

Arg Asp Leu Thr Gln Gln Ile Leu Asn Leu Phe Ala Ser Lys Asp Ser
            660                 665                 670

Ser Ala Ala Trp Asn Ala Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu
        675                 680                 685

His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly
    690                 695                 700

Val Gln Glu Ser Pro Leu Thr Gln Glu Asp Ser Leu Leu Ala Val Arg
705                 710                 715                 720

Ile Tyr Phe His Arg Ile Thr Val Phe Leu Arg Glu Lys Lys His Ser
                725                 730                 735

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser
            740                 745                 750

Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ala Ser Gly
        755                 760                 765

Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Ala His
    770                 775                 780

Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe
785                 790                 795                 800

Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser
                805                 810                 815

Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys
            820                 825                 830
```

```
Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His
        835                 840                 845

Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn
    850                 855                 860

Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn
865                 870                 875                 880

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe
                885                 890                 895

Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro
            900                 905                 910

Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg His Pro
        915                 920                 925

Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu
    930                 935                 940

Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr
945                 950                 955                 960

Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg
                965                 970                 975

Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe
            980                 985                 990

Lys Ala Trp Ala Val Ala Arg Leu  Ser Gln Thr Phe Pro  Asn Ala Asp
        995                 1000                1005

Phe Ala  Glu Ile Thr Lys Leu  Ala Thr Asp Leu Thr  Lys Val Asn
    1010                1015                1020

Lys Glu  Cys Cys His Gly Asp  Leu Leu Glu Cys Ala  Asp Asp Arg
    1025                1030                1035

Ala Glu  Leu Ala Lys Tyr Met  Cys Glu Asn Gln Ala  Thr Ile Ser
```

```
    1040                1045                1050

Ser Lys  Leu Gln Thr Cys Cys  Asp Lys Pro Leu Leu  Lys Lys Ala
    1055                1060                1065

His Cys  Leu Ser Glu Val Glu  His Asp Thr Met Pro  Ala Asp Leu
    1070                1075                1080

Pro Ala  Ile Ala Ala Asp Phe  Val Glu Asp Gln Glu  Val Cys Lys
    1085                1090                1095

Asn Tyr  Ala Glu Ala Lys Asp  Val Phe Leu Gly Thr  Phe Leu Tyr
    1100                1105                1110

Glu Tyr  Ser Arg Arg His Pro  Asp Tyr Ser Val Ser  Leu Leu Leu
    1115                1120                1125

Arg Leu  Ala Lys Lys Tyr Glu  Ala Thr Leu Glu Lys  Cys Cys Ala
    1130                1135                1140

Glu Ala  Asn Pro Pro Ala Cys  Tyr Gly Thr Val Leu  Ala Glu Phe
    1145                1150                1155

Gln Pro  Leu Val Glu Glu Pro  Lys Asn Leu Val Lys  Thr Asn Cys
    1160                1165                1170

Asp Leu  Tyr Glu Lys Leu Gly  Glu Tyr Gly Phe Gln  Asn Ala Ile
    1175                1180                1185

Leu Val  Arg Tyr Thr Gln Lys  Ala Pro Gln Val Ser  Thr Pro Thr
    1190                1195                1200

Leu Val  Glu Ala Ala Arg Asn  Leu Gly Arg Val Gly  Thr Lys Cys
    1205                1210                1215

Cys Thr  Leu Pro Glu Asp Gln  Arg Leu Pro Cys Val  Glu Asp Tyr
    1220                1225                1230

Leu Ser  Ala Ile Leu Asn Arg  Val Cys Leu Leu His  Glu Lys Thr
    1235                1240                1245
```

```
Pro Val  Ser Glu His Val Thr  Lys Cys Cys Ser Gly  Ser Leu Val
    1250                1255                1260


Glu Arg  Arg Pro Cys Phe Ser  Ala Leu Thr Val Asp  Glu Thr Tyr
    1265                1270                1275


Val Pro  Lys Glu Phe Lys Ala  Glu Thr Phe Thr Phe  His Ser Asp
    1280                1285                1290


Ile Cys  Thr Leu Pro Glu Lys  Glu Lys Gln Ile Lys  Lys Gln Thr
    1295                1300                1305


Ala Leu  Ala Glu Leu Val Lys  His Lys Pro Lys Ala  Thr Ala Glu
    1310                1315                1320


Gln Leu  Lys Thr Val Met Asp  Asp Phe Ala Gln Phe  Leu Asp Thr
    1325                1330                1335


Cys Cys  Lys Ala Ala Asp Lys  Asp Thr Cys Phe Ser  Thr Glu Gly
    1340                1345                1350


Pro Asn  Leu Val Thr Arg Cys  Lys Asp Ala Leu Ala  His His His
    1355                1360                1365


His His  His
    1370


<210> 553
<211> 901
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 553
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30
```

```
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu Arg Asn Lys Arg Ala
    130                 135                 140

Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser Pro Leu Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu Lys Val Asp Ala Gln
                165                 170                 175

Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu Ser Glu Leu Thr Gln
            180                 185                 190

Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Phe Pro
225                 230                 235                 240
```

```
Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg Lys Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300

Ser Ser Phe Pro Pro Gly Ser Glu Ala His Lys Ser Glu Ile Ala His
305                 310                 315                 320

Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu Ile
                325                 330                 335

Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala Lys
            340                 345                 350

Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp Glu
        355                 360                 365

Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys
    370                 375                 380

Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala Asp
385                 390                 395                 400

Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His
                405                 410                 415

Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala Glu
            420                 425                 430

Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly His
        435                 440                 445

Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu
    450                 455                 460
```

```
Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys Cys
465                 470                 475                 480

Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly Val
                485                 490                 495

Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys Ser
            500                 505                 510

Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala
        515                 520                 525

Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr Lys
    530                 535                 540

Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly Asp
545                 550                 555                 560

Leu Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met Cys
                565                 570                 575

Glu Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp Lys
            580                 585                 590

Pro Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp Thr
        595                 600                 605

Met Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp Gln
    610                 615                 620

Glu Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Thr
625                 630                 635                 640

Phe Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser Leu
                645                 650                 655

Leu Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys Cys
            660                 665                 670
```

```
Ala Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu Phe
        675                 680                 685

Gln Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys Asp
    690                 695                 700

Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu Val
705                 710                 715                 720

Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val Glu
                725                 730                 735

Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu Pro
            740                 745                 750

Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile Leu
        755                 760                 765

Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His Val
    770                 775                 780

Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe Ser
785                 790                 795                 800

Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala Glu
                805                 810                 815

Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu Lys
            820                 825                 830

Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys Pro
        835                 840                 845

Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala Gln
    850                 855                 860

Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe Ser
865                 870                 875                 880

Thr Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala His
                885                 890                 895
```

His His His His His
900

<210> 554
<211> 902
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 554
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Cys Asp Leu Pro His Thr Tyr Asn Leu Arg Asn Lys Arg Ala
130 135 140

Leu Lys Val Leu Ala Gln Met Arg Arg Leu Thr Pro Leu Ser Cys Leu

```
145                 150                 155                 160

Lys Asp Arg Lys Asp Phe Gly Phe Pro Leu Glu Lys Val Asp Ala Gln
                165                 170                 175

Gln Ile Gln Lys Ala Gln Ser Ile Pro Val Leu Arg Asp Leu Thr Gln
            180                 185                 190

Gln Ile Leu Asn Leu Phe Ala Ser Lys Asp Ser Ser Ala Ala Trp Asn
        195                 200                 205

Ala Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu His Gln Gln Leu Asn
    210                 215                 220

Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly Val Gln Glu Ser Pro
225                 230                 235                 240

Leu Thr Gln Glu Asp Ser Leu Leu Ala Val Arg Ile Tyr Phe His Arg
                245                 250                 255

Ile Thr Val Phe Leu Arg Glu Lys Lys His Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser Ser Ser Ala Asn Val
        275                 280                 285

Leu Gly Arg Leu Arg Glu Glu Lys Ala Ser Gly Gly Pro Ala Leu Phe
    290                 295                 300

Lys Ser Ser Phe Pro Pro Gly Ser Glu Ala His Lys Ser Glu Ile Ala
305                 310                 315                 320

His Arg Tyr Asn Asp Leu Gly Glu Gln His Phe Lys Gly Leu Val Leu
                325                 330                 335

Ile Ala Phe Ser Gln Tyr Leu Gln Lys Cys Ser Tyr Asp Glu His Ala
            340                 345                 350

Lys Leu Val Gln Glu Val Thr Asp Phe Ala Lys Thr Cys Val Ala Asp
        355                 360                 365
```

```
Glu Ser Ala Ala Asn Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp
    370                 375                 380

Lys Leu Cys Ala Ile Pro Asn Leu Arg Glu Asn Tyr Gly Glu Leu Ala
385                 390                 395                 400

Asp Cys Cys Thr Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln
                405                 410                 415

His Lys Asp Asp Asn Pro Ser Leu Pro Pro Phe Glu Arg Pro Glu Ala
            420                 425                 430

Glu Ala Met Cys Thr Ser Phe Lys Glu Asn Pro Thr Thr Phe Met Gly
        435                 440                 445

His Tyr Leu His Glu Val Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro
    450                 455                 460

Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr Asn Glu Ile Leu Thr Gln Cys
465                 470                 475                 480

Cys Ala Glu Ala Asp Lys Glu Ser Cys Leu Thr Pro Lys Leu Asp Gly
                485                 490                 495

Val Lys Glu Lys Ala Leu Val Ser Ser Val Arg Gln Arg Met Lys Cys
            500                 505                 510

Ser Ser Met Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val
        515                 520                 525

Ala Arg Leu Ser Gln Thr Phe Pro Asn Ala Asp Phe Ala Glu Ile Thr
    530                 535                 540

Lys Leu Ala Thr Asp Leu Thr Lys Val Asn Lys Glu Cys Cys His Gly
545                 550                 555                 560

Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Glu Leu Ala Lys Tyr Met
                565                 570                 575

Cys Glu Asn Gln Ala Thr Ile Ser Ser Lys Leu Gln Thr Cys Cys Asp
```

```
            580                 585                 590

Lys Pro Leu Leu Lys Lys Ala His Cys Leu Ser Glu Val Glu His Asp
        595                 600                 605

Thr Met Pro Ala Asp Leu Pro Ala Ile Ala Ala Asp Phe Val Glu Asp
    610                 615                 620

Gln Glu Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly
625                 630                 635                 640

Thr Phe Leu Tyr Glu Tyr Ser Arg Arg His Pro Asp Tyr Ser Val Ser
                645                 650                 655

Leu Leu Leu Arg Leu Ala Lys Lys Tyr Glu Ala Thr Leu Glu Lys Cys
            660                 665                 670

Cys Ala Glu Ala Asn Pro Pro Ala Cys Tyr Gly Thr Val Leu Ala Glu
        675                 680                 685

Phe Gln Pro Leu Val Glu Glu Pro Lys Asn Leu Val Lys Thr Asn Cys
    690                 695                 700

Asp Leu Tyr Glu Lys Leu Gly Glu Tyr Gly Phe Gln Asn Ala Ile Leu
705                 710                 715                 720

Val Arg Tyr Thr Gln Lys Ala Pro Gln Val Ser Thr Pro Thr Leu Val
                725                 730                 735

Glu Ala Ala Arg Asn Leu Gly Arg Val Gly Thr Lys Cys Cys Thr Leu
            740                 745                 750

Pro Glu Asp Gln Arg Leu Pro Cys Val Glu Asp Tyr Leu Ser Ala Ile
        755                 760                 765

Leu Asn Arg Val Cys Leu Leu His Glu Lys Thr Pro Val Ser Glu His
    770                 775                 780

Val Thr Lys Cys Cys Ser Gly Ser Leu Val Glu Arg Arg Pro Cys Phe
785                 790                 795                 800
```

```
Ser Ala Leu Thr Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Lys Ala
                805                 810                 815

Glu Thr Phe Thr Phe His Ser Asp Ile Cys Thr Leu Pro Glu Lys Glu
            820                 825                 830

Lys Gln Ile Lys Lys Gln Thr Ala Leu Ala Glu Leu Val Lys His Lys
        835                 840                 845

Pro Lys Ala Thr Ala Glu Gln Leu Lys Thr Val Met Asp Asp Phe Ala
    850                 855                 860

Gln Phe Leu Asp Thr Cys Cys Lys Ala Ala Asp Lys Asp Thr Cys Phe
865                 870                 875                 880

Ser Thr Glu Gly Pro Asn Leu Val Thr Arg Cys Lys Asp Ala Leu Ala
                885                 890                 895

His His His His His His
            900
```

<210> 555
<211> 901
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 555

```
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1               5                   10                  15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
            20                  25                  30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
    50                  55                  60
```

```
Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65                  70                  75                  80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
            100                 105                 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270
```

```
Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495
```

```
Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Ala Leu Phe Lys
            580                 585                 590

Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro Gln Thr His Asn Leu
        595                 600                 605

Arg Asn Lys Arg Ala Leu Thr Leu Leu Val Gln Met Arg Arg Leu Ser
    610                 615                 620

Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Gln Glu
625                 630                 635                 640

Lys Val Asp Ala Gln Gln Ile Lys Lys Ala Gln Ala Ile Pro Val Leu
                645                 650                 655

Ser Glu Leu Thr Gln Gln Ile Leu Asn Ile Phe Thr Ser Lys Asp Ser
            660                 665                 670

Ser Ala Ala Trp Asn Thr Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu
        675                 680                 685

His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly
    690                 695                 700
```

```
Val Gln Glu Phe Pro Leu Thr Gln Glu Asp Ala Leu Leu Ala Val Arg
705                 710                 715                 720

Lys Tyr Phe His Arg Ile Thr Val Tyr Leu Arg Glu Lys Lys His Ser
                725                 730                 735

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser
            740                 745                 750

Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ser Gly Gly
        755                 760                 765

Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu
    770                 775                 780

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu
785                 790                 795                 800

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp
                805                 810                 815

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser
            820                 825                 830

Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe
        835                 840                 845

Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn
    850                 855                 860

Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly
865                 870                 875                 880

Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser His
                885                 890                 895

His His His His His
            900
```

<210> 556
<211> 902

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 556
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
20 25 30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65 70 75 80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
100 105 110

Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
115 120 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
130 135 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145 150 155 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
165 170 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser

```
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Thr Phe Leu Tyr Glu Tyr Ser Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400
```

```
Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Ala Ala Arg Asn Leu Gly Arg
            420                 425                 430

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540

Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

Thr Arg Cys Lys Asp Ala Leu Ala Ser Gly Gly Pro Ala Leu Phe Lys
            580                 585                 590

Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro His Thr Tyr Asn Leu
        595                 600                 605

Arg Asn Lys Arg Ala Leu Lys Val Leu Ala Gln Met Arg Arg Leu Thr
```

```
    610                 615                 620

Pro Leu Ser Cys Leu Lys Asp Arg Lys Asp Phe Gly Phe Pro Leu Glu
625                 630                 635                 640

Lys Val Asp Ala Gln Gln Ile Gln Lys Ala Gln Ser Ile Pro Val Leu
                645                 650                 655

Arg Asp Leu Thr Gln Gln Ile Leu Asn Leu Phe Ala Ser Lys Asp Ser
            660                 665                 670

Ser Ala Ala Trp Asn Ala Thr Leu Leu Asp Ser Phe Cys Asn Asp Leu
        675                 680                 685

His Gln Gln Leu Asn Asp Leu Gln Gly Cys Leu Met Gln Gln Val Gly
    690                 695                 700

Val Gln Glu Ser Pro Leu Thr Gln Glu Asp Ser Leu Leu Ala Val Arg
705                 710                 715                 720

Ile Tyr Phe His Arg Ile Thr Val Phe Leu Arg Glu Lys Lys His Ser
                725                 730                 735

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Val Trp Arg Ala Leu Ser
            740                 745                 750

Ser Ser Ala Asn Val Leu Gly Arg Leu Arg Glu Glu Lys Ala Ser Gly
        755                 760                 765

Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Glu Val Gln
    770                 775                 780

Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser Leu Arg
785                 790                 795                 800

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly Met Ser
                805                 810                 815

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Ser Ile
            820                 825                 830
```

```
Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg
        835                 840                 845


Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met
    850                 855                 860


Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly
865                 870                 875                 880


Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
                885                 890                 895


His His His His His His
            900


<210> 557
<211> 1365
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 557
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
1               5                   10                  15


Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
            20                  25                  30


Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
        35                  40                  45


Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
    50                  55                  60


Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65                  70                  75                  80


Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
                85                  90                  95
```

```
Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
            100                 105                 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
        115                 120                 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145                 150                 155                 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
                165                 170                 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300
```

```
Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525
```

```
Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu Ser Gly Gly Pro Ala Leu Phe
            580                 585                 590

Lys Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro Gln Thr His Ser
        595                 600                 605

Leu Gly Ser Arg Arg Thr Leu Met Leu Leu Ala Gln Met Arg Arg Ile
    610                 615                 620

Ser Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln
625                 630                 635                 640

Glu Glu Phe Gly Asn Gln Phe Gln Lys Ala Glu Thr Ile Pro Val Leu
                645                 650                 655

His Glu Met Ile Gln Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser
            660                 665                 670

Ser Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu
        675                 680                 685

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly
    690                 695                 700

Val Thr Glu Thr Pro Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg
705                 710                 715                 720

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser
                725                 730                 735
```

```
Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
            740                 745                 750

Leu Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser Lys Glu Ser Gly Gly
        755                 760                 765

Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Asp Ala His Lys
    770                 775                 780

Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys
785                 790                 795                 800

Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe
                805                 810                 815

Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr
            820                 825                 830

Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr
        835                 840                 845

Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr
    850                 855                 860

Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu
865                 870                 875                 880

Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val
                885                 890                 895

Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu
            900                 905                 910

Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr
        915                 920                 925

Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala
    930                 935                 940

Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro
945                 950                 955                 960
```

```
Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln
               965                 970                 975

Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys
           980                 985                 990

Ala Trp Ala Val Ala Arg Leu Ser  Gln Arg Phe Pro Lys  Ala Glu Phe
        995                 1000                1005

Ala Glu  Val Ser Lys Leu Val  Thr Asp Leu Thr Lys  Val His Thr
    1010                1015                1020

Glu Cys  Cys His Gly Asp Leu  Leu Glu Cys Ala Asp  Asp Arg Ala
    1025                1030                1035

Asp Leu  Ala Lys Tyr Ile Cys  Glu Asn Gln Asp Ser  Ile Ser Ser
    1040                1045                1050

Lys Leu  Lys Glu Cys Cys Glu  Lys Pro Leu Leu Glu  Lys Ser His
    1055                1060                1065

Cys Ile  Ala Glu Val Glu Asn  Asp Glu Met Pro Ala  Asp Leu Pro
    1070                1075                1080

Ser Leu  Ala Ala Asp Phe Val  Glu Ser Lys Asp Val  Cys Lys Asn
    1085                1090                1095

Tyr Ala  Glu Ala Lys Asp Val  Phe Leu Gly Met Phe  Leu Tyr Glu
    1100                1105                1110

Tyr Ala  Arg Arg His Pro Asp  Tyr Ser Val Val Leu  Leu Leu Arg
    1115                1120                1125

Leu Ala  Lys Thr Tyr Glu Thr  Thr Leu Glu Lys Cys  Cys Ala Ala
    1130                1135                1140

Ala Asp  Pro His Glu Cys Tyr  Ala Lys Val Phe Asp  Glu Phe Lys
    1145                1150                1155
```

```
Pro Leu  Val Glu Glu Pro Gln  Asn Leu Ile Lys Gln  Asn Cys Glu
    1160                 1165                 1170

Leu Phe  Glu Gln Leu Gly Glu  Tyr Lys Phe Gln Asn  Ala Leu Leu
    1175                 1180                 1185

Val Arg  Tyr Thr Lys Lys Val  Pro Gln Val Ser Thr  Pro Thr Leu
    1190                 1195                 1200

Val Glu  Val Ser Arg Asn Leu  Gly Lys Val Gly Ser  Lys Cys Cys
    1205                 1210                 1215

Lys His  Pro Glu Ala Lys Arg  Met Pro Cys Ala Glu  Asp Tyr Leu
    1220                 1225                 1230

Ser Val  Val Leu Asn Gln Leu  Cys Val Leu His Glu  Lys Thr Pro
    1235                 1240                 1245

Val Ser  Asp Arg Val Thr Lys  Cys Cys Thr Glu Ser  Leu Val Asn
    1250                 1255                 1260

Arg Arg  Pro Cys Phe Ser Ala  Leu Glu Val Asp Glu  Thr Tyr Val
    1265                 1270                 1275

Pro Lys  Glu Phe Asn Ala Glu  Thr Phe Thr Phe His  Ala Asp Ile
    1280                 1285                 1290

Cys Thr  Leu Ser Glu Lys Glu  Arg Gln Ile Lys Lys  Gln Thr Ala
    1295                 1300                 1305

Leu Val  Glu Leu Val Lys His  Lys Pro Lys Ala Thr  Lys Glu Gln
    1310                 1315                 1320

Leu Lys  Ala Val Met Asp Asp  Phe Ala Ala Phe Val  Glu Lys Cys
    1325                 1330                 1335

Cys Lys  Ala Asp Asp Lys Glu  Thr Cys Phe Ala Glu  Glu Gly Lys
    1340                 1345                 1350

Lys Leu  Val Ala Ala Ser Gln  Ala Ala Leu Gly Leu
    1355                 1360                 1365
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<210> 558
<211> 1366
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 558
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
1 5 10 15

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
20 25 30

Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65 70 75 80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
100 105 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
115 120 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
130 135 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145 150 155 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala

```
                165                 170                 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300

Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380
```

```
Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu Ser Gly Gly Pro Ala Leu Phe
            580                 585                 590

Lys Ser Ser Phe Pro Pro Gly Ser Cys Asn Leu Ser Gln Thr His Ser
```

595 600 605

Leu Asn Asn Arg Arg Thr Leu Met Leu Met Ala Gln Met Arg Arg Ile
610 615 620

Ser Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Glu Phe Pro Gln
625 630 635 640

Glu Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Val
645 650 655

Leu His Glu Met Met Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asn
660 665 670

Ser Ser Ala Ala Trp Asp Glu Thr Leu Leu Glu Lys Phe Tyr Ile Glu
675 680 685

Leu Phe Gln Gln Met Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val
690 695 700

Gly Val Glu Glu Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val
705 710 715 720

Lys Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Met Glu Lys Lys Tyr
725 730 735

Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu
740 745 750

Ser Phe Ser Thr Asn Leu Gln Lys Arg Leu Arg Arg Lys Asp Ser Gly
755 760 765

Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Asp Ala His
770 775 780

Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
785 790 795 800

Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
805 810 815

```
Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
            820                 825                 830

Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
        835                 840                 845

Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
    850                 855                 860

Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
865                 870                 875                 880

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
                885                 890                 895

Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
            900                 905                 910

Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
        915                 920                 925

Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
    930                 935                 940

Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
945                 950                 955                 960

Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
                965                 970                 975

Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
            980                 985                 990

Lys Ala Trp Ala Val Ala Arg Leu  Ser Gln Arg Phe Pro  Lys Ala Glu
        995                 1000                1005

Phe Ala  Glu Val Ser Lys Leu  Val Thr Asp Leu Thr  Lys Val His
    1010                1015                1020

Thr Glu  Cys Cys His Gly Asp  Leu Leu Glu Cys Ala  Asp Asp Arg
```

```
    1025                1030                1035

Ala Asp  Leu Ala Lys Tyr Ile  Cys Glu Asn Gln Asp  Ser Ile Ser
    1040                1045                1050

Ser Lys  Leu Lys Glu Cys Cys  Glu Lys Pro Leu Leu  Glu Lys Ser
    1055                1060                1065

His Cys  Ile Ala Glu Val Glu  Asn Asp Glu Met Pro  Ala Asp Leu
    1070                1075                1080

Pro Ser  Leu Ala Ala Asp Phe  Val Glu Ser Lys Asp  Val Cys Lys
    1085                1090                1095

Asn Tyr  Ala Glu Ala Lys Asp  Val Phe Leu Gly Met  Phe Leu Tyr
    1100                1105                1110

Glu Tyr  Ala Arg Arg His Pro  Asp Tyr Ser Val Val  Leu Leu Leu
    1115                1120                1125

Arg Leu  Ala Lys Thr Tyr Glu  Thr Thr Leu Glu Lys  Cys Cys Ala
    1130                1135                1140

Ala Ala  Asp Pro His Glu Cys  Tyr Ala Lys Val Phe  Asp Glu Phe
    1145                1150                1155

Lys Pro  Leu Val Glu Glu Pro  Gln Asn Leu Ile Lys  Gln Asn Cys
    1160                1165                1170

Glu Leu  Phe Glu Gln Leu Gly  Glu Tyr Lys Phe Gln  Asn Ala Leu
    1175                1180                1185

Leu Val  Arg Tyr Thr Lys Lys  Val Pro Gln Val Ser  Thr Pro Thr
    1190                1195                1200

Leu Val  Glu Val Ser Arg Asn  Leu Gly Lys Val Gly  Ser Lys Cys
    1205                1210                1215

Cys Lys  His Pro Glu Ala Lys  Arg Met Pro Cys Ala  Glu Asp Tyr
    1220                1225                1230
```

```
Leu Ser  Val Val Leu Asn Gln  Leu Cys Val Leu His  Glu Lys Thr
    1235                1240                1245


Pro Val  Ser Asp Arg Val Thr  Lys Cys Cys Thr Glu  Ser Leu Val
    1250                1255                1260


Asn Arg  Arg Pro Cys Phe Ser  Ala Leu Glu Val Asp  Glu Thr Tyr
    1265                1270                1275


Val Pro  Lys Glu Phe Asn Ala  Glu Thr Phe Thr Phe  His Ala Asp
    1280                1285                1290


Ile Cys  Thr Leu Ser Glu Lys  Glu Arg Gln Ile Lys  Lys Gln Thr
    1295                1300                1305


Ala Leu  Val Glu Leu Val Lys  His Lys Pro Lys Ala  Thr Lys Glu
    1310                1315                1320


Gln Leu  Lys Ala Val Met Asp  Asp Phe Ala Ala Phe  Val Glu Lys
    1325                1330                1335


Cys Cys  Lys Ala Asp Asp Lys  Glu Thr Cys Phe Ala  Glu Glu Gly
    1340                1345                1350


Lys Lys  Leu Val Ala Ala Ser  Gln Ala Ala Leu Gly  Leu
    1355                1360                1365


<210> 559
<211> 1366
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 559
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
1               5                   10                  15


Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
            20                  25                  30
```

```
Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
    50                  55                  60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65                  70                  75                  80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
            100                 105                 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
        115                 120                 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145                 150                 155                 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
                165                 170                 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240
```

```
Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300

Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460
```

```
Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu Ser Gly Gly Pro Ala Leu Phe
            580                 585                 590

Lys Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro Gln Thr His Ser
        595                 600                 605

Leu Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Arg Arg Ile
    610                 615                 620

Ser Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Glu Phe Pro Gln
625                 630                 635                 640

Glu Glu Phe Asp Asp Lys Gln Phe Gln Lys Ala Gln Ala Ile Ser Val
                645                 650                 655

Leu His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp
            660                 665                 670
```

```
Ser Ser Ala Ala Leu Asp Glu Thr Leu Leu Asp Glu Phe Tyr Ile Glu
        675                 680                 685

Leu Asp Gln Gln Leu Asn Asp Leu Glu Ser Cys Val Met Gln Glu Val
    690                 695                 700

Gly Val Ile Glu Ser Pro Leu Met Tyr Glu Asp Ser Ile Leu Ala Val
705                 710                 715                 720

Arg Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr
                725                 730                 735

Ser Ser Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe
            740                 745                 750

Ser Leu Ser Ile Asn Leu Gln Lys Arg Leu Lys Ser Lys Glu Ser Gly
        755                 760                 765

Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Asp Ala His
    770                 775                 780

Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
785                 790                 795                 800

Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
                805                 810                 815

Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
            820                 825                 830

Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
        835                 840                 845

Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
    850                 855                 860

Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
865                 870                 875                 880

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
                885                 890                 895
```

```
Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
            900                 905                 910

Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
        915                 920                 925

Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
    930                 935                 940

Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
945                 950                 955                 960

Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
                965                 970                 975

Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
            980                 985                 990

Lys Ala Trp Ala Val Ala Arg Leu  Ser Gln Arg Phe Pro  Lys Ala Glu
        995                 1000                1005

Phe Ala  Glu Val Ser Lys Leu  Val Thr Asp Leu Thr  Lys Val His
    1010                1015                1020

Thr Glu  Cys Cys His Gly Asp  Leu Leu Glu Cys Ala  Asp Asp Arg
    1025                1030                1035

Ala Asp  Leu Ala Lys Tyr Ile  Cys Glu Asn Gln Asp  Ser Ile Ser
    1040                1045                1050

Ser Lys  Leu Lys Glu Cys Cys  Glu Lys Pro Leu Leu  Glu Lys Ser
    1055                1060                1065

His Cys  Ile Ala Glu Val Glu  Asn Asp Glu Met Pro  Ala Asp Leu
    1070                1075                1080

Pro Ser  Leu Ala Ala Asp Phe  Val Glu Ser Lys Asp  Val Cys Lys
    1085                1090                1095
```

```
Asn Tyr  Ala Glu Ala Lys Asp  Val Phe Leu Gly Met  Phe Leu Tyr
    1100                1105                1110

Glu Tyr  Ala Arg Arg His Pro  Asp Tyr Ser Val Val  Leu Leu Leu
    1115                1120                1125

Arg Leu  Ala Lys Thr Tyr Glu  Thr Thr Leu Glu Lys  Cys Cys Ala
    1130                1135                1140

Ala Ala  Asp Pro His Glu Cys  Tyr Ala Lys Val Phe  Asp Glu Phe
    1145                1150                1155

Lys Pro  Leu Val Glu Glu Pro  Gln Asn Leu Ile Lys  Gln Asn Cys
    1160                1165                1170

Glu Leu  Phe Glu Gln Leu Gly  Glu Tyr Lys Phe Gln  Asn Ala Leu
    1175                1180                1185

Leu Val  Arg Tyr Thr Lys Lys  Val Pro Gln Val Ser  Thr Pro Thr
    1190                1195                1200

Leu Val  Glu Val Ser Arg Asn  Leu Gly Lys Val Gly  Ser Lys Cys
    1205                1210                1215

Cys Lys  His Pro Glu Ala Lys  Arg Met Pro Cys Ala  Glu Asp Tyr
    1220                1225                1230

Leu Ser  Val Val Leu Asn Gln  Leu Cys Val Leu His  Glu Lys Thr
    1235                1240                1245

Pro Val  Ser Asp Arg Val Thr  Lys Cys Cys Thr Glu  Ser Leu Val
    1250                1255                1260

Asn Arg  Arg Pro Cys Phe Ser  Ala Leu Glu Val Asp  Glu Thr Tyr
    1265                1270                1275

Val Pro  Lys Glu Phe Asn Ala  Glu Thr Phe Thr Phe  His Ala Asp
    1280                1285                1290

Ile Cys  Thr Leu Ser Glu Lys  Glu Arg Gln Ile Lys  Lys Gln Thr
    1295                1300                1305
```

Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu
1310 1315 1320

Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys
1325 1330 1335

Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly
1340 1345 1350

Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
1355 1360 1365

<210> 560
<211> 1366
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 560
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
1 5 10 15

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
20 25 30

Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65 70 75 80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu

```
            100                 105                 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
        115                 120                 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145                 150                 155                 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
                165                 170                 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300

Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320
```

```
Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
```

```
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu Ser Gly Gly Pro Ala Leu Phe
            580                 585                 590

Lys Ser Ser Phe Pro Pro Gly Ser Cys Asp Leu Pro Gln Thr His Ser
        595                 600                 605

Leu Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile
    610                 615                 620

Ser His Phe Ser Cys Leu Lys Asp Arg Tyr Asp Phe Gly Phe Pro Gln
625                 630                 635                 640

Glu Val Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Ala
                645                 650                 655

Phe His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp
            660                 665                 670

Ser Ser Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Ile Glu
        675                 680                 685

Leu Phe Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Thr Gln Glu Val
    690                 695                 700

Gly Val Glu Glu Ile Ala Leu Met Asn Glu Asp Ser Ile Leu Ala Val
705                 710                 715                 720

Arg Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Met Gly Lys Lys Tyr
                725                 730                 735

Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe
            740                 745                 750
```

```
Ser Phe Ser Thr Asn Leu Gln Lys Gly Leu Arg Arg Lys Asp Ser Gly
        755                 760                 765

Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Asp Ala His
    770                 775                 780

Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe
785                 790                 795                 800

Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
                805                 810                 815

Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys
            820                 825                 830

Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
        835                 840                 845

Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
    850                 855                 860

Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
865                 870                 875                 880

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
                885                 890                 895

Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
            900                 905                 910

Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
        915                 920                 925

Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
    930                 935                 940

Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
945                 950                 955                 960

Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
```

```
               965                 970                 975

Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
            980                 985                 990

Lys Ala Trp Ala Val Ala Arg Leu  Ser Gln Arg Phe Pro  Lys Ala Glu
        995                 1000                1005

Phe Ala  Glu Val Ser Lys Leu  Val Thr Asp Leu Thr  Lys Val His
    1010                1015                1020

Thr Glu  Cys Cys His Gly Asp  Leu Leu Glu Cys Ala  Asp Asp Arg
    1025                1030                1035

Ala Asp  Leu Ala Lys Tyr Ile  Cys Glu Asn Gln Asp  Ser Ile Ser
    1040                1045                1050

Ser Lys  Leu Lys Glu Cys Cys  Glu Lys Pro Leu Leu  Glu Lys Ser
    1055                1060                1065

His Cys  Ile Ala Glu Val Glu  Asn Asp Glu Met Pro  Ala Asp Leu
    1070                1075                1080

Pro Ser  Leu Ala Ala Asp Phe  Val Glu Ser Lys Asp  Val Cys Lys
    1085                1090                1095

Asn Tyr  Ala Glu Ala Lys Asp  Val Phe Leu Gly Met  Phe Leu Tyr
    1100                1105                1110

Glu Tyr  Ala Arg Arg His Pro  Asp Tyr Ser Val Val  Leu Leu Leu
    1115                1120                1125

Arg Leu  Ala Lys Thr Tyr Glu  Thr Thr Leu Glu Lys  Cys Cys Ala
    1130                1135                1140

Ala Ala  Asp Pro His Glu Cys  Tyr Ala Lys Val Phe  Asp Glu Phe
    1145                1150                1155

Lys Pro  Leu Val Glu Glu Pro  Gln Asn Leu Ile Lys  Gln Asn Cys
    1160                1165                1170
```

```
Glu Leu  Phe Glu Gln Leu Gly  Glu Tyr Lys Phe Gln  Asn Ala Leu
    1175                1180                1185

Leu Val  Arg Tyr Thr Lys Lys  Val Pro Gln Val Ser  Thr Pro Thr
    1190                1195                1200

Leu Val  Glu Val Ser Arg Asn  Leu Gly Lys Val Gly  Ser Lys Cys
    1205                1210                1215

Cys Lys  His Pro Glu Ala Lys  Arg Met Pro Cys Ala  Glu Asp Tyr
    1220                1225                1230

Leu Ser  Val Val Leu Asn Gln  Leu Cys Val Leu His  Glu Lys Thr
    1235                1240                1245

Pro Val  Ser Asp Arg Val Thr  Lys Cys Cys Thr Glu  Ser Leu Val
    1250                1255                1260

Asn Arg  Arg Pro Cys Phe Ser  Ala Leu Glu Val Asp  Glu Thr Tyr
    1265                1270                1275

Val Pro  Lys Glu Phe Asn Ala  Glu Thr Phe Thr Phe  His Ala Asp
    1280                1285                1290

Ile Cys  Thr Leu Ser Glu Lys  Glu Arg Gln Ile Lys  Lys Gln Thr
    1295                1300                1305

Ala Leu  Val Glu Leu Val Lys  His Lys Pro Lys Ala  Thr Lys Glu
    1310                1315                1320

Gln Leu  Lys Ala Val Met Asp  Asp Phe Ala Ala Phe  Val Glu Lys
    1325                1330                1335

Cys Cys  Lys Ala Asp Asp Lys  Glu Thr Cys Phe Ala  Glu Glu Gly
    1340                1345                1350

Lys Lys  Leu Val Ala Ala Ser  Gln Ala Ala Leu Gly  Leu
    1355                1360                1365
```

<210> 561

<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 561
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala
130 135 140

Leu Ile Leu Leu Ala Gln Met Arg Arg Ile Ser Pro Phe Ser Cys Leu
145 150 155 160

Lys Asp Arg His Asp Phe Glu Phe Pro Gln Glu Glu Phe Asp Asp Lys
165 170 175

```
Gln Phe Gln Lys Ala Gln Ala Ile Ser Val Leu His Glu Met Ile Gln
            180                 185                 190

Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Leu Asp
        195                 200                 205

Glu Thr Leu Leu Asp Glu Phe Tyr Ile Glu Leu Asp Gln Gln Leu Asn
    210                 215                 220

Asp Leu Glu Ser Cys Val Met Gln Glu Val Gly Val Ile Glu Ser Pro
225                 230                 235                 240

Leu Met Tyr Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser Ser Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Ile Asn Leu
        275                 280                 285

Gln Lys Arg Leu Lys Ser Lys Glu Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300

Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400
```

```
Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415


Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 562
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 562
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125


Gly Ser Cys Asp Leu Pro Gln Thr His Ser Leu Gly Asn Arg Arg Ala
```

```
    130                 135                 140

Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser His Phe Ser Cys Leu
145                 150                 155                 160

Lys Asp Arg Tyr Asp Phe Gly Phe Pro Gln Glu Val Phe Asp Gly Asn
                165                 170                 175

Gln Phe Gln Lys Ala Gln Ala Ile Ser Ala Phe His Glu Met Ile Gln
            180                 185                 190

Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp
        195                 200                 205

Glu Thr Leu Leu Asp Lys Phe Tyr Ile Glu Leu Phe Gln Gln Leu Asn
    210                 215                 220

Asp Leu Glu Ala Cys Val Thr Gln Glu Val Gly Val Glu Glu Ile Ala
225                 230                 235                 240

Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg
                245                 250                 255

Ile Thr Leu Tyr Leu Met Gly Lys Lys Tyr Ser Pro Cys Ala Trp Glu
            260                 265                 270

Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser Phe Ser Thr Asn Leu
        275                 280                 285

Gln Lys Gly Leu Arg Arg Lys Asp Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300

Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350
```

```
Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 563
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 563
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
```

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Asn Tyr Lys Gln Leu Gln Leu Gln Glu Arg Thr Asn Ile
    130                 135                 140

Arg Lys Cys Gln Glu Leu Leu Glu Gln Leu Asn Gly Lys Ile Asn Leu
145                 150                 155                 160

Thr Tyr Arg Ala Asp Phe Lys Ile Pro Met Glu Met Thr Glu Lys Met
                165                 170                 175

Gln Lys Ser Tyr Thr Ala Phe Ala Ile Gln Glu Met Leu Gln Asn Val
            180                 185                 190

Phe Leu Val Phe Arg Asn Asn Phe Ser Ser Thr Gly Trp Asn Glu Thr
        195                 200                 205

Ile Val Val Arg Leu Leu Asp Glu Leu His Gln Gln Thr Val Phe Leu
    210                 215                 220

Lys Thr Val Leu Glu Glu Lys Gln Glu Glu Arg Leu Thr Trp Glu Met
225                 230                 235                 240

Ser Ser Thr Ala Leu His Leu Lys Ser Tyr Tyr Trp Arg Val Gln Arg
                245                 250                 255

Tyr Leu Lys Leu Met Lys Tyr Asn Ser Tyr Ala Trp Met Val Val Arg
            260                 265                 270

Ala Glu Ile Phe Arg Asn Phe Leu Ile Ile Arg Arg Leu Thr Arg Asn
        275                 280                 285

Phe Gln Asn Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
    290                 295                 300
```

```
Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
305                 310                 315                 320


Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
                325                 330                 335


Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
            340                 345                 350


Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
        355                 360                 365


Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
    370                 375                 380


Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
385                 390                 395                 400


Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
                405                 410                 415


Val Thr Val Ser Ser
            420


<210> 564
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 564
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Asn Tyr Lys Gln Leu Gln Leu Gln Glu Arg Thr Asn Ile
    130                 135                 140

Arg Lys Cys Gln Glu Leu Leu Glu Gln Leu Asn Gly Lys Ile Asn Leu
145                 150                 155                 160

Thr Tyr Arg Ala Asp Phe Lys Ile Pro Met Glu Met Thr Glu Lys Met
                165                 170                 175

Gln Lys Ser Tyr Thr Ala Phe Ala Ile Gln Glu Met Leu Gln Asn Val
            180                 185                 190

Phe Leu Val Phe Arg Asn Asn Phe Ser Ser Thr Gly Trp Asn Glu Thr
        195                 200                 205

Ile Val Val Arg Leu Leu Asp Glu Leu His Gln Gln Thr Val Phe Leu
    210                 215                 220

Lys Thr Val Leu Glu Glu Lys Gln Glu Glu Arg Leu Thr Trp Glu Met
225                 230                 235                 240

Ser Ser Thr Ala Leu His Leu Lys Ser Tyr Tyr Trp Arg Val Gln Arg
                245                 250                 255

Tyr Leu Lys Leu Met Lys Tyr Asn Ser Tyr Ala Trp Met Val Val Arg
```

```
            260                 265                 270

Ala Glu Ile Phe Arg Asn Phe Leu Ile Ile Arg Arg Leu Thr Arg Asn
        275                 280                 285

Phe Gln Asn Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
    290                 295                 300

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
305                 310                 315                 320

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
                325                 330                 335

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
            340                 345                 350

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
        355                 360                 365

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
    370                 375                 380

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
385                 390                 395                 400

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
                405                 410                 415

Val Thr Val Ser Ser
            420
```

<210> 565
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 565

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Asn Tyr Lys Gln Leu Gln Leu Gln Glu Arg Thr Asn Ile
    130                 135                 140

Arg Lys Ser Gln Glu Leu Leu Glu Gln Leu Asn Gly Lys Ile Asn Leu
145                 150                 155                 160

Thr Tyr Arg Ala Asp Phe Lys Ile Pro Met Glu Met Thr Glu Lys Met
                165                 170                 175

Gln Lys Ser Tyr Thr Ala Phe Ala Ile Gln Glu Met Leu Gln Asn Val
            180                 185                 190

Phe Leu Val Phe Arg Asn Asn Phe Ser Ser Thr Gly Trp Asn Glu Thr
        195                 200                 205

Ile Val Val Arg Leu Leu Asp Glu Leu His Gln Gln Thr Val Phe Leu
    210                 215                 220
```

```
Lys Thr Val Leu Glu Glu Lys Gln Glu Glu Arg Leu Thr Trp Glu Met
225                 230                 235                 240

Ser Ser Thr Ala Leu His Leu Lys Ser Tyr Tyr Trp Arg Val Gln Arg
                245                 250                 255

Tyr Leu Lys Leu Met Lys Tyr Asn Ser Tyr Ala Trp Met Val Val Arg
            260                 265                 270

Ala Glu Ile Phe Arg Asn Phe Leu Ile Ile Arg Arg Leu Thr Arg Asn
        275                 280                 285

Phe Gln Asn Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
    290                 295                 300

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
305                 310                 315                 320

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
                325                 330                 335

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
            340                 345                 350

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
        355                 360                 365

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
    370                 375                 380

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
385                 390                 395                 400

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
                405                 410                 415

Val Thr Val Ser Ser
            420
```

<210> 566
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 566
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Asn Tyr Lys Gln Leu Gln Leu Gln Glu Arg Thr Asn Ile
130 135 140

Arg Lys Ser Gln Glu Leu Leu Glu Gln Leu Asn Gly Lys Ile Asn Leu
145 150 155 160

Thr Tyr Arg Ala Asp Phe Lys Ile Pro Met Glu Met Thr Glu Lys Met
165 170 175

```
Gln Lys Ser Tyr Thr Ala Phe Ala Ile Gln Glu Met Leu Gln Asn Val
            180                 185                 190

Phe Leu Val Phe Arg Asn Asn Phe Ser Ser Thr Gly Trp Asn Glu Thr
        195                 200                 205

Ile Val Val Arg Leu Leu Asp Glu Leu His Gln Gln Thr Val Phe Leu
    210                 215                 220

Lys Thr Val Leu Glu Glu Lys Gln Glu Glu Arg Leu Thr Trp Glu Met
225                 230                 235                 240

Ser Ser Thr Ala Leu His Leu Lys Ser Tyr Tyr Trp Arg Val Gln Arg
                245                 250                 255

Tyr Leu Lys Leu Met Lys Tyr Asn Ser Tyr Ala Trp Met Val Val Arg
            260                 265                 270

Ala Glu Ile Phe Arg Asn Phe Leu Ile Ile Arg Arg Leu Thr Arg Asn
        275                 280                 285

Phe Gln Asn Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
    290                 295                 300

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
305                 310                 315                 320

Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
                325                 330                 335

Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
            340                 345                 350

Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu
        355                 360                 365

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr
    370                 375                 380

Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr
```

385 390 395 400

Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu
405 410 415

Val Thr Val Ser Ser
420

<210> 567
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 567
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

```
Gly Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn
    130                 135                 140

Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr
145                 150                 155                 160

Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln
                165                 170                 175

Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met
            180                 185                 190

Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly
        195                 200                 205

Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln
    210                 215                 220

Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp
225                 230                 235                 240

Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr
                245                 250                 255

Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala
            260                 265                 270

Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn
        275                 280                 285

Arg Leu Thr Gly Tyr Leu Arg Asn Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350
```

```
Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365


Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380


Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400


Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415


Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 568
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 568
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
```

```
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn
    130                 135                 140

Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr
145                 150                 155                 160

Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln
                165                 170                 175

Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met
            180                 185                 190

Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly
        195                 200                 205

Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln
    210                 215                 220

Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp
225                 230                 235                 240

Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr
                245                 250                 255

Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala
            260                 265                 270

Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn
        275                 280                 285

Arg Leu Thr Gly Tyr Leu Arg Asn Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300
```

```
Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320


Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335


Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350


Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365


Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380


Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400


Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415


Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 569
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 569
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn
    130                 135                 140

Phe Gln Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr
145                 150                 155                 160

Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln
                165                 170                 175

Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met
            180                 185                 190

Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly
        195                 200                 205

Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln
    210                 215                 220

Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp
225                 230                 235                 240

Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr
                245                 250                 255
```

```
Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala
            260                 265                 270

Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn
        275                 280                 285

Arg Leu Thr Gly Tyr Leu Arg Asn Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 570
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 570
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20   25   30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn
    130   135   140

Phe Gln Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr
145   150   155   160

Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln
                165   170   175

Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met
            180   185   190

Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly
        195   200   205

Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln

```
    210                 215                 220

Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp
225                 230                 235                 240

Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr
                245                 250                 255

Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala
            260                 265                 270

Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn
        275                 280                 285

Arg Leu Thr Gly Tyr Leu Arg Asn Ser Gly Gly Pro Ala Leu Phe Lys
    290                 295                 300

Ser Ser Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 571
<211> 167
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 571
Ile Asn Tyr Lys Gln Leu Gln Leu Gln Glu Arg Thr Asn Ile Arg Lys
1 5 10 15

Cys Gln Glu Leu Leu Glu Gln Leu Asn Gly Lys Ile Asn Leu Thr Tyr
20 25 30

Arg Ala Asp Phe Lys Ile Pro Met Glu Met Thr Glu Lys Met Gln Lys
35 40 45

Ser Tyr Thr Ala Phe Ala Ile Gln Glu Met Leu Gln Asn Val Phe Leu
50 55 60

Val Phe Arg Asn Asn Phe Ser Ser Thr Gly Trp Asn Glu Thr Ile Val
65 70 75 80

Val Arg Leu Leu Asp Glu Leu His Gln Gln Thr Val Phe Leu Lys Thr
85 90 95

Val Leu Glu Glu Lys Gln Glu Glu Arg Leu Thr Trp Glu Met Ser Ser
100 105 110

Thr Ala Leu His Leu Lys Ser Tyr Tyr Trp Arg Val Gln Arg Tyr Leu
115 120 125

Lys Leu Met Lys Tyr Asn Ser Tyr Ala Trp Met Val Val Arg Ala Glu
130 135 140

Ile Phe Arg Asn Phe Leu Ile Ile Arg Arg Leu Thr Arg Asn Phe Gln
145 150 155 160

Asn His His His His His His
165

<210> 572
<211> 167
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 572
Ile Asn Tyr Lys Gln Leu Gln Leu Gln Glu Arg Thr Asn Ile Arg Lys
1 5 10 15

Ser Gln Glu Leu Leu Glu Gln Leu Asn Gly Lys Ile Asn Leu Thr Tyr
            20 25 30

Arg Ala Asp Phe Lys Ile Pro Met Glu Met Thr Glu Lys Met Gln Lys
        35 40 45

Ser Tyr Thr Ala Phe Ala Ile Gln Glu Met Leu Gln Asn Val Phe Leu
    50 55 60

Val Phe Arg Asn Asn Phe Ser Ser Thr Gly Trp Asn Glu Thr Ile Val
65 70 75 80

Val Arg Leu Leu Asp Glu Leu His Gln Gln Thr Val Phe Leu Lys Thr
                85 90 95

Val Leu Glu Glu Lys Gln Glu Glu Arg Leu Thr Trp Glu Met Ser Ser
            100 105 110

Thr Ala Leu His Leu Lys Ser Tyr Tyr Trp Arg Val Gln Arg Tyr Leu
        115 120 125

Lys Leu Met Lys Tyr Asn Ser Tyr Ala Trp Met Val Val Arg Ala Glu
    130 135 140

Ile Phe Arg Asn Phe Leu Ile Ile Arg Arg Leu Thr Arg Asn Phe Gln
145 150 155 160

Asn His His His His His His

165

<210> 573
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 573
Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Arg Asn His His His His His His
165 170

<210> 574
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 574
Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

```
Thr Gly Tyr Leu Arg Asn His His His His His His
                165                 170


<210> 575
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 575
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125


Gly Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn
    130                 135                 140


Phe Gln Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr
145                 150                 155                 160
```

```
Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln
                165                 170                 175

Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met
            180                 185                 190

Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly
        195                 200                 205

Trp Gln Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln
    210                 215                 220

Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp
225                 230                 235                 240

Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr
                245                 250                 255

Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala
            260                 265                 270

Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn
        275                 280                 285

Arg Leu Thr Gly Tyr Leu Arg Asn Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365
```

```
Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425
```

<210> 576
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 576

```
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110
```

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn
    130                 135                 140

Phe Gln Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr
145                 150                 155                 160

Cys Leu Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln
                165                 170                 175

Leu Gln Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met
            180                 185                 190

Leu Gln Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly
        195                 200                 205

Trp Gln Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln
    210                 215                 220

Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp
225                 230                 235                 240

Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr
                245                 250                 255

Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala
            260                 265                 270

Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn
        275                 280                 285

Arg Leu Thr Gly Tyr Leu Arg Asn Ser Gly Gly Pro Gly Pro Ala Gly
    290                 295                 300

Leu Tyr Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly
305                 310                 315                 320

Gly Leu Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser
```

```
                325                 330                 335

Gly Phe Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro
            340                 345                 350

Gly Lys Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp
        355                 360                 365

Thr Leu Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    370                 375                 380

Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu
385                 390                 395                 400

Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser
                405                 410                 415

Ser Gln Gly Thr Leu Val Thr Val Ser Ser
            420                 425


<210> 577
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 577
Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1               5                   10                  15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
            20                  25                  30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
        35                  40                  45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
    50                  55                  60
```

```
Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Gln
65                  70                  75                  80


Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
                85                  90                  95


His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
            100                 105                 110


Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
        115                 120                 125


Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
    130                 135                 140


Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145                 150                 155                 160


Thr Gly Tyr Leu Arg Asn His His His His His His
                165                 170


<210> 578
<211> 172
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 578
Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1               5                   10                  15


Ser Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
            20                  25                  30


Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
        35                  40                  45


Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
    50                  55                  60
```

```
Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Gln
65                  70                  75                  80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
                85                  90                  95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
            100                 105                 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
        115                 120                 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
    130                 135                 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145                 150                 155                 160

Thr Gly Tyr Leu Arg Asn His His His His His His
                165                 170
```

<210> 579
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 579

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60
```

```
Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Gly Gly Gly Ser Gly Gly
    130                 135                 140

Gly Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Gly Gly Gly Ser Gly Gly
    290                 295                 300

Gly Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
            420                 425                 430

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
        435                 440                 445

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
    450                 455                 460

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
465                 470                 475                 480

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
                485                 490                 495
```

```
Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
            500                 505                 510

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
        515                 520                 525
```

<210> 580
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 580

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
```

```
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    290                 295                 300

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350
```

```
Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
            420                 425                 430

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
        435                 440                 445

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
    450                 455                 460

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
465                 470                 475                 480

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
                485                 490                 495

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
            500                 505                 510

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
        515                 520                 525


<210> 581
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
```

<400> 581
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1   5   10   15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20   25   30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35   40   45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50   55   60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65   70   75   80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85   90   95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100   105   110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115   120   125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
    130   135   140

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145   150   155   160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165   170   175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180   185   190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195   200   205

```
Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    290                 295                 300

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
            420                 425                 430
```

```
Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
        435                 440                 445


Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
    450                 455                 460


Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
465                 470                 475                 480


Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
                485                 490                 495


Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
            500                 505                 510


Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
        515                 520                 525


<210> 582
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 582
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
```

```
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
    130                 135                 140

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    290                 295                 300

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
385                 390                 395                 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
                405                 410                 415

Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
            420                 425                 430

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
        435                 440                 445

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
    450                 455                 460

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
465                 470                 475                 480

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
                485                 490                 495

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
```

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            500                 505                 510

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys
        515                 520                 525


<210> 583
<211> 226
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 583
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr Val Arg
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
                85                  90                  95


Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110


Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
        115                 120                 125


Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
    130                 135                 140
```

```
Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
145                 150                 155                 160


Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
                165                 170                 175


Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
            180                 185                 190


Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
        195                 200                 205


Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys His His His His
    210                 215                 220


His His
225


<210> 584
<211> 269
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 584
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15


Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30


Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45


Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60


Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser His His His His His His
            260                 265
```

<210> 585
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 585
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Thr Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Glu Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Thr Lys Asp Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 586
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 586
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Glu Gly Gly

1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Ala Glu Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Arg Asn Thr Leu Thr Leu
65 70 75 80

Gln Met Asn Asp Leu Lys Pro Glu Asp Thr Ala Ser Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 587
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 587
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
20 25 30

```
Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Val Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95


Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110


Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125


Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 588
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 588
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30


Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60
```

```
Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95


Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125


Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 589
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 589
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30


Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95
```

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
115 120 125

Asp Tyr Gly Ser His His His His His His
130 135

<210> 590
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 590
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
20 25 30

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
85 90 95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro

```
        115                 120                 125


Asp Tyr Gly Ser His His His His His His
    130                 135


<210> 591
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 591
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
            20                  25                  30


Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45


Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
                85                  90                  95


Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
            100                 105                 110


Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
        115                 120                 125


Asp Tyr Gly Ser His His His His His His
    130                 135
```

<210> 592
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 592
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
20 25 30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
85 90 95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
115 120 125

Asp Tyr Gly Ser His His His His His His
130 135

<210> 593
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 593
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile Phe Ser Ala Asn
20 25 30

Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Met
85 90 95

Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro
115 120 125

Asp Tyr Gly Ser His His His His His His
130 135

<210> 594
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 594
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135


<210> 595
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 595
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35                  40                  45
```

```
Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135


<210> 596
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 596
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30

Val Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
```

65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 597
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 597
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

```
Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125


Tyr Gly Ser His His His His His His
    130                 135


<210> 598
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 598
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
            20                  25                  30


Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Arg Glu Leu Val
        35                  40                  45


Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ser Val Lys
    50                  55                  60


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95


Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125
```

Tyr Gly Ser His His His His His His
130 135

<210> 599
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 599
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Glu Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Ala Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ala Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ser Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 600
<211> 137

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 600
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile Phe Ser Thr Asp
20 25 30

Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
35 40 45

Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 601
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 601
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 602
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 602
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr

```
            20                  25                  30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135


<210> 603
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 603
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30

Thr Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
```

```
Ser Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
65                  70                  75                  80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85                  90                  95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115                 120                 125

Tyr Gly Ser His His His His His His
    130                 135
```

<210> 604
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 604

```
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20                  25                  30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
        35                  40                  45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50                  55                  60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65                  70                  75                  80
```

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 605
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 605
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115   120   125

Tyr Gly Ser His His His His His His
    130   135

<210> 606
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 606
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1   5   10   15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
            20   25   30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Arg Glu Leu Val
        35   40   45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
    50   55   60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Met Tyr Leu
65   70   75   80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
                85   90   95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
            100   105   110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
        115   120   125

Tyr Gly Ser His His His His His His

130 135

<210> 607
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 607
Gln Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Thr Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln Arg Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asp Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 608
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 608
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Thr Ile Phe Ser Gly Tyr
20 25 30

Thr Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly Leu Glu Leu Val
35 40 45

Ala Val Ile Ser Gly Gly Gly Asp Thr Asn Tyr Ala Asp Ser Val Lys
50 55 60

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Met Tyr Leu
65 70 75 80

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Tyr
85 90 95

Ser Arg Glu Val Thr Pro Pro Trp Lys Leu Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr Asp Val Pro Asp
115 120 125

Tyr Gly Ser His His His His His His
130 135

<210> 609
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 609

Gly Pro Ala Gly Leu Tyr Ala Gln
1 5

<210> 610
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 610
Gly Pro Ala Gly Met Lys Gly Leu
1 5

<210> 611
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 611
Pro Gly Gly Pro Ala Gly Ile Gly
1 5

<210> 612
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 612
Ala Leu Phe Lys Ser Ser Phe Pro
1 5

<210> 613
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 613
Ala Leu Phe Phe Ser Ser Pro Pro
1 5

<210> 614
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 614
Leu Ala Gln Arg Leu Arg Ser Ser
1 5

<210> 615
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 615
Leu Ala Gln Lys Leu Lys Ser Ser
1 5

<210> 616
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 616
Gly Ala Leu Phe Lys Ser Ser Phe Pro Ser Gly Gly Gly Pro Ala Gly
1 5 10 15

Leu Tyr Ala Gln Gly Gly Ser Gly Lys Gly Gly Ser Gly Lys
20 25 30

<210> 617
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 617
Arg Gly Ser Gly Gly Gly Pro Ala Gly Leu Tyr Ala Gln Gly Ser Gly
1 5 10 15

Gly Gly Pro Ala Gly Leu Tyr Ala Gln Gly Gly Ser Gly Lys
20 25 30

<210> 618
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 618
Lys Gly Gly Gly Pro Ala Gly Leu Tyr Ala Gln Gly Pro Ala Gly Leu
1 5 10 15

Tyr Ala Gln Gly Pro Ala Gly Leu Tyr Ala Gln Gly Ser Arg
20 25 30

<210> 619
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 619

Arg Gly Gly Pro Ala Gly Leu Tyr Ala Gln Gly Gly Pro Ala Gly Leu
1 5 10 15

Tyr Ala Gln Gly Gly Gly Pro Ala Gly Leu Tyr Ala Gln Lys
20 25 30

<210> 620
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 620
Lys Gly Gly Ala Leu Phe Lys Ser Ser Phe Pro Gly Gly Pro Ala Gly
1 5 10 15

Ile Gly Pro Leu Ala Gln Lys Leu Lys Ser Ser Gly Gly Ser
20 25 30

<210> 621
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 621
Ser Gly Gly Pro Gly Gly Pro Ala Gly Ile Gly Ala Leu Phe Lys Ser
1 5 10 15

Ser Phe Pro Leu Ala Gln Lys Leu Lys Ser Ser Gly Gly Gly
20 25 30

<210> 622
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 622
Arg Gly Pro Leu Ala Gln Lys Leu Lys Ser Ser Ala Leu Phe Lys Ser
1 5 10 15

Ser Phe Pro Gly Gly Pro Ala Gly Ile Gly Gly Gly Gly Lys
20 25 30

<210> 623
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 623
Gly Gly Gly Ala Leu Phe Lys Ser Ser Phe Pro Leu Ala Gln Lys Leu
1 5 10 15

Lys Ser Ser Pro Gly Gly Pro Ala Gly Ile Gly Gly Gly Arg
20 25 30

<210> 624
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 624
Arg Gly Pro Gly Gly Pro Ala Gly Ile Gly Pro Leu Ala Gln Lys Leu
1 5 10 15

Lys Ser Ser Ala Leu Phe Lys Ser Ser Phe Pro Gly Gly Gly
20 25 30

<210> 625
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 625
Arg Gly Gly Pro Leu Ala Gln Lys Leu Lys Ser Ser Pro Gly Gly Pro
1 5 10 15

Ala Gly Ile Gly Ala Leu Phe Lys Ser Ser Phe Pro Gly Lys
20 25 30

<210> 626
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 626
Arg Ser Gly Gly Pro Ala Gly Leu Tyr Ala Gln Ala Leu Phe Lys Ser
1 5 10 15

Ser Phe Pro Leu Ala Gln Lys Leu Lys Ser Ser Gly Gly Gly
20 25 30

<210> 627
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 627
Gly Gly Pro Leu Ala Gln Lys Leu Lys Ser Ser Ala Leu Phe Lys Ser
1 5 10 15

Ser Phe Pro Gly Pro Ala Gly Leu Tyr Ala Gln Gly Gly Arg
20 25 30

<210> 628
<211> 30

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 628
Gly Gly Ala Leu Phe Lys Ser Ser Phe Pro Gly Pro Ala Gly Leu Tyr
1 5 10 15

Ala Gln Pro Leu Ala Gln Lys Leu Lys Ser Ser Gly Gly Lys
20 25 30

<210> 629
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 629
Arg Gly Gly Ala Leu Phe Lys Ser Ser Phe Pro Leu Ala Gln Lys Leu
1 5 10 15

Lys Ser Ser Gly Pro Ala Gly Leu Tyr Ala Gln Gly Gly Lys
20 25 30

<210> 630
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 630
Arg Gly Gly Gly Pro Ala Gly Leu Tyr Ala Gln Pro Leu Ala Gln Lys
1 5 10 15

Leu Lys Ser Ser Ala Leu Phe Lys Ser Ser Phe Pro Gly Gly
20 25 30

<210> 631
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 631
Ser Gly Pro Leu Ala Gln Lys Leu Lys Ser Ser Gly Pro Ala Gly Leu
1 5 10 15

Tyr Ala Gln Ala Leu Phe Lys Ser Ser Phe Pro Gly Ser Lys
20 25 30

<210> 632
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 632
Lys Gly Gly Pro Gly Gly Pro Ala Gly Ile Gly Pro Leu Ala Gln Arg
1 5 10 15

Leu Arg Ser Ser Ala Leu Phe Lys Ser Ser Phe Pro Gly Arg
20 25 30

<210> 633
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 633
Lys Ser Gly Pro Gly Gly Pro Ala Gly Ile Gly Ala Leu Phe Phe Ser
1 5 10 15

Ser Pro Pro Leu Ala Gln Lys Leu Lys Ser Ser Gly Gly Arg
20 25 30

<210> 634
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 634
Ser Gly Gly Phe Pro Arg Ser Gly Gly Ser Phe Asn Pro Arg Thr Phe
1 5 10 15

Gly Ser Lys Arg Lys Arg Arg Gly Ser Arg Gly Gly Gly Gly
20 25 30

<210> 635
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 635
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

```
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510
```

```
Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735
```

```
Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
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<210> 636
<211> 553
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 636
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
130 135 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145 150 155 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
165 170 175

```
Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            260                 265                 270

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        275                 280                 285

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
    290                 295                 300

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
305                 310                 315                 320

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                325                 330                 335

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
            340                 345                 350

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
        355                 360                 365

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
    370                 375                 380

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
```

385 390 395 400

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
405 410 415

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
420 425 430

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
435 440 445

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
450 455 460

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
465 470 475 480

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
485 490 495

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
500 505 510

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
515 520 525

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
530 535 540

Glu Ile Lys His His His His His His
545 550

<210> 637
<211> 665
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 637

```
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                  10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys
145                 150                 155                 160

Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys
                165                 170                 175

Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val
            180                 185                 190

Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp
        195                 200                 205

Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe
    210                 215                 220
```

```
Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp
225                 230                 235                 240

Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe
                245                 250                 255

Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys
            260                 265                 270

Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys
        275                 280                 285

Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp
    290                 295                 300

Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys
305                 310                 315                 320

Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser
                325                 330                 335

Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr
            340                 345                 350

Cys Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser
        355                 360                 365

Leu Ser His Ser Pro Gly Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
                405                 410                 415

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430
```

```
Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655
```

Glu Ile Lys His His His His His His
            660   665

<210> 638
<211> 665
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 638
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1   5   10   15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20   25   30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35   40   45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50   55   60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65   70   75   80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85   90   95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100   105   110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115   120   125

Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130   135   140

Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly

```
145                 150                 155                 160

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                165                 170                 175

Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro
            180                 185                 190

Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        195                 200                 205

Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    210                 215                 220

Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro Asp Thr
225                 230                 235                 240

Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
                245                 250                 255

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
            260                 265                 270

Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly Gln Gly
        275                 280                 285

Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
    290                 295                 300

Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
305                 310                 315                 320

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
                325                 330                 335

Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys Pro Gly Lys
            340                 345                 350

Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser Gly Val
        355                 360                 365
```

```
Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
    370                 375                 380

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
385                 390                 395                 400

Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
                405                 410                 415

Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser
            420                 425                 430

Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
        435                 440                 445

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
    450                 455                 460

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
465                 470                 475                 480

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
                485                 490                 495

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
            500                 505                 510

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
        515                 520                 525

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
    530                 535                 540

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
545                 550                 555                 560

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
                565                 570                 575

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
```

```
            580                 585                 590

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
        595                 600                 605

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
    610                 615                 620

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
625                 630                 635                 640

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
                645                 650                 655

Pro Gly Lys His His His His His His
            660                 665


<210> 639
<211> 558
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 639
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1               5                   10                  15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
            20                  25                  30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
        35                  40                  45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
    50                  55                  60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65                  70                  75                  80
```

```
Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
                85                  90                  95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
            100                 105                 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
        115                 120                 125

Ile Ser Thr Leu Thr Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

Ser Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
145                 150                 155                 160

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
                165                 170                 175

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
            180                 185                 190

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
        195                 200                 205

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
    210                 215                 220

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
225                 230                 235                 240

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
                245                 250                 255

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
            260                 265                 270

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        275                 280                 285

Ser Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Met Lys
    290                 295                 300
```

```
Gly Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
305                 310                 315                 320

Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
                325                 330                 335

Thr Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys
            340                 345                 350

Gly Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser
        355                 360                 365

Pro Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    370                 375                 380

Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
385                 390                 395                 400

Val Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp
                405                 410                 415

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
            420                 425                 430

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser
        435                 440                 445

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys
    450                 455                 460

Lys Ala Ser Gln Asn Val Gly Thr Asn Val Gly Trp Tyr Gln Gln Lys
465                 470                 475                 480

Pro Gly Lys Ala Pro Lys Ala Leu Ile Tyr Ser Ala Ser Phe Arg Tyr
                485                 490                 495

Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
            500                 505                 510
```

Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr
515 520 525

Cys Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys
530 535 540

Val Glu Ile Lys His His His His His His Glu Pro Glu Ala
545 550 555

<210> 640
<211> 273
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 640
Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
115 120 125

```
Ile Ser Thr Leu Thr Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly
    130                 135                 140

Leu Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
145                 150                 155                 160

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
                165                 170                 175

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
            180                 185                 190

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
        195                 200                 205

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
    210                 215                 220

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
225                 230                 235                 240

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
                245                 250                 255

Thr Leu Val Thr Val Ser Ser His His His His His His Glu Pro Glu
            260                 265                 270

Ala
```

<210> 641
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 641

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15
```

```
Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220
```

```
Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445
```

```
Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
    530                 535                 540

Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655
```

Glu Ile Lys

<210> 642
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 642
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

```
Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Ala Arg Glu Lys Leu Trp Ser Ala Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590
```

```
Gly Lys Ala Pro Lys Ser Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 643
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 643

```
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95
```

```
Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300
```

```
Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525
```

Gln Gly Thr Thr Val Thr Val Ser Ser Ser Gly Gly Pro Gly Pro Ala
530 535 540

Gly Leu Tyr Ala Gln Pro Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545 550 555 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
565 570 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
580 585 590

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
595 600 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
610 615 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625 630 635 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
645 650 655

Glu Ile Lys

<210> 644
<211> 659
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 644
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr

```
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240
```

```
Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        435                 440                 445

Phe Ser Ser Tyr Thr Leu Ala Trp Val Arg Gln Ala Pro Gly Lys Gly
```

```
    450                 455                 460

Leu Glu Trp Val Ala Ala Ile Asp Ser Ser Ser Tyr Thr Tyr Ser Pro
465                 470                 475                 480

Asp Thr Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                485                 490                 495

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Ala Arg Asp Ser Asn Trp Asp Ala Leu Asp Tyr Trp Gly
        515                 520                 525

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
    530                 535                 540

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
545                 550                 555                 560

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
                565                 570                 575

Val Thr Glu Lys Val Trp Gly Asn Val Ala Trp Tyr Gln Gln Lys Pro
            580                 585                 590

Gly Lys Ala Pro Ile Ser Leu Ile Tyr Ser Pro Ser Leu Arg Lys Ser
        595                 600                 605

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    610                 615                 620

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
625                 630                 635                 640

Gln Gln Tyr Tyr Thr Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Val
                645                 650                 655

Glu Ile Lys
```

<210> 645
<211> 539
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 645
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
165 170 175

```
Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ser Ile
        435                 440                 445

Phe Ser Ala Asn Ala Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gly
    450                 455                 460

Leu Glu Leu Val Ala Val Ile Ser Ser Gly Gly Ser Thr Asn Tyr Ala
465                 470                 475                 480

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                485                 490                 495

Thr Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Met Tyr Ser Gly Ser Tyr Tyr Tyr Thr Pro Asn Asp Tyr
        515                 520                 525

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535


<210> 646
<211> 538
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 646
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1               5                   10                  15
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Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
            20                  25                  30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
        35                  40                  45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
    50                  55                  60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65                  70                  75                  80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
                85                  90                  95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
            100                 105                 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
        115                 120                 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
    130                 135                 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145                 150                 155                 160

Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro
                165                 170                 175

Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
```

```
225                 230                 235                 240

Gly Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu
                245                 250                 255

Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn
            260                 265                 270

Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met
        275                 280                 285

Pro Lys Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu
    290                 295                 300

Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe
305                 310                 315                 320

His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu
                325                 330                 335

Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu
            340                 345                 350

Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln
        355                 360                 365

Ser Ile Ile Ser Thr Leu Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly
    370                 375                 380

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
                405                 410                 415

Gln Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val
            420                 425                 430

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Glu Arg Ile
        435                 440                 445
```

```
Phe Ser Thr Asp Val Met Gly Trp Tyr Arg Gln Ala Pro Gly Lys Gln
    450                 455                 460

Arg Glu Leu Val Ala Val Val Ser Ala Arg Gly Thr Thr Asn Tyr Leu
465                 470                 475                 480

Asp Ala Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                485                 490                 495

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            500                 505                 510

Tyr Tyr Cys Tyr Val Arg Glu Thr Thr Ser Pro Trp Arg Ile Tyr Trp
        515                 520                 525

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
    530                 535


<210> 647
<211> 930
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 647
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80
```

```
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510
```

```
Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720
```

```
Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```