SEQUENCE LISTING

<110> WEREWOLF THERAPEUTICS, INC.

<120> SEPARATION MOIETIES AND METHODS OF USE THEREOF

<130> 761146.000140

<140>
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<150> 62/938,786
<151> 2019-11-21

<150> 62/847,914
<151> 2019-05-14

<160> 408

<170> PatentIn version 3.5

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

<400> 1

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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>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 3

```
Lys Arg Ala Leu Gly Leu Pro Gly
1               5
```

<210> 4
<211> 40

<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
Protease cleavage site sequence

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Ser or Thr

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Leu or Ile

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Ser or Thr

<400> 5
Pro Arg Xaa Xaa Xaa
1 5

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 6
Leu Glu Ala Thr Ala
1 5

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

<220>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
Protease cleavage site 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>

<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<210> 12

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
      Protease cleavage site sequence

<400> 16
Ser Gly Arg Ser Ala
1   5

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

<220>
<223> Description of Unknown:
      Protease cleavage site sequence

<400> 17
Asp Ala Phe Lys
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 18
Gly Gly Gly Arg Arg
1 5

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 19
Gly Phe Leu Gly
1

<210> 20
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 20
Ala Leu Ala Leu
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 21
Phe Lys

1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 22
Asn Leu Leu
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

<400> 23
Pro Ile Cys Phe Phe
1 5

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
Protease cleavage site 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>
<223> Description of Unknown:
Protease cleavage site sequence

<220>
<221> MOD_RES

<222> (2)..(2)
<223> Pip

<400> 31
Phe Xaa Arg Ser
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 34
Asp Glu Val Asp
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 35
Asp Glu Val Asp Pro
1 5

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>

<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 40
Gly Lys Ala Phe Arg Arg
1 5

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 41
Asp Ala Phe Lys
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 42
Asp Val Leu Lys
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

<400> 43
Asp Ala Phe Lys
1

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

<220>
<223> Description of Unknown:
Protease cleavage site sequence

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

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

<220>

<223> 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

<210> 46
<211> 652
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 46
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
```

<210> 47

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

<220>
<223> 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>
<223> 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>
<223> 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>
<223> 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>

<223> 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>
<223> 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>
<223> 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>
<223> 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>

<223> 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>
<223> 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>
<223> 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
```

60
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>
<223> 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>
<223> 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>
<223> 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
```

70
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>
<223> 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>
<223> 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>
<223> 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>
<223> 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>
<223> 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>
<223> 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

```
                                            85
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>
<223> 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>
<223> 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>
<223> 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
```

```
                                        100
    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 Glu Pro Glu
1055 1060 1065

Ala

<210> 70
<211> 1069
<212> PRT
<213> Artificial Sequence

<220>
<223> 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
```

```
                                        105
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>
<223> 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>
<223> 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>
<223> 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
```

120
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>
<223> 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>
<223> 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

<400> 78
000

<210> 79
<211> 328
<212> PRT
<213> Homo sapiens

<400> 79
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
```

135
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> 80
<211> 335
<212> PRT
<213> Mus musculus

<400> 80
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> 81
<211> 399
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 82
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 83
<211> 547
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 83
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

```
                                            143
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> 84
<211> 166
<212> PRT
<213> Homo sapiens

<400> 84

```
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> 85
<211> 155
<212> PRT
<213> Mus musculus

<400> 85
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> 86
<211> 699
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 86
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
```

```
                                        150
    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> 87
<211> 436
<212> PRT
<213> Artificial Sequence

<220>
<223> 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

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> 88
<211> 428
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 88
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> 89
<211> 489
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
IFN-gamma-R1 sequence

<400> 89
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> 90
<211> 337
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
IFN-gamma-R2 sequence

<400> 90

```
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> 91
<211> 528
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 91
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> 92
<211> 658
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 92

```
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
```

```
                                        165
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> 93
<211> 1337
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 94
<211> 1485
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polypeptide

<400> 94
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> 95
<211> 698
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 96
<211> 699
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

190
675 680 685

Val Thr Val Ser Ser His His His His His His
690 695

<210> 97
<211> 554
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 98
<211> 554
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 99
<211> 702
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

200
690 695 700

<210> 100
<211> 702
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                        201
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> 101
<211> 702
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 102
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                                209
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> 103
<211> 276
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 104
<211> 573
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 105
<211> 573
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

220
565 570

<210> 106
<211> 1511
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                                221
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> 107
<211> 1511
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 His His
1490 1495 1500

His His His His Glu Pro Glu Ala
1505 1510

<210> 108
<211> 2110
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 109
<211> 2120
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 109

```
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> 110
<211> 2130
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

260

```
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> 111
<211> 703
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                                 272
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> 112
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 113
<211> 832
<212> PRT
<213> Artificial Sequence

<220>

<223> 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 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
```

```
                                        280
            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> 114
<211> 549
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                            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> 115
<211> 579
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 116
<211> 809
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

290
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> 117

<211> 938
<212> PRT
<213> Artificial Sequence

<220>
<223> 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

```
                                        295
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>
<223> 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 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
```

300

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

```
                                        301
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> 119
<211> 938
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 120
<211> 962
<212> PRT
<213> Artificial Sequence

<220>
<223> 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

```
                                        310
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> 121
<211> 832
<212> PRT
<213> Artificial Sequence

<220>
<223> 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

```
                                        315
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
```

```
                                        316
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> 122
<211> 1091
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

320

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> 123
<211> 1091
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 124
<211> 1091
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 125
<211> 674
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 126
<211> 674
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

341

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

```
                                        342
    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> 127
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

345

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> 128
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 129
<211> 555
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                        350

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
```

                                            351
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> 130
<211> 555
<212> PRT
<213> Artificial Sequence

<220>
<223> 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
```

```
                                                353
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> 131
<211> 555
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                                355
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
```

```
                                                356
                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> 132
<211> 575
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 133
<211> 704
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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 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> 134
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                            365
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
```

366

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> 135
<211> 545
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

370

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> 136
<211> 575
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                                  373
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> 137
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                        375
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
```

376

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> 138
<211> 806

<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 139
<211> 676
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                            383
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> 140
<211> 421
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                        386
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> 141
<211> 420
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 142
<211> 550
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 143
<211> 420
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

395
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> 144
<211> 290
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 145
<211> 291
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 146
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                        401
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> 147
<211> 704
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

404

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> 148
<211> 674
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                            409
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
```

410
660 665 670

His His

<210> 149
<211> 704
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 150
<211> 704
<212> PRT

<213> Artificial Sequence

<220>
<223> 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 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> 151
<211> 689
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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

```
                                                420
                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> 152
<211> 700
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

425
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> 153
<211> 276
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 154
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 155
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 156
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 157
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 158
<211> 295
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 159
<211> 765
<212> PRT
<213> Artificial Sequence

<220>
<223> 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>
<223> 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 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

```
                                                442
        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> 765
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 162
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                            450
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> 163
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

455
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> 708
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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 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
```

```
                                        458
        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> 165
<211> 161
<212> PRT
<213> Artificial Sequence

<220>
<223> 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

460
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> 166
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 167
<211> 708
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                                467
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> 708
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                        470
    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> 169
<211> 450
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 170
<211> 198
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 171
<211> 328
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 172
<211> 328
<212> PRT
```

<213> Artificial Sequence

<220>
<223> 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 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> 173
<211> 1396
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 174
<211> 797
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                        490
                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> 175
<211> 797
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                            495
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> 176
<211> 587
<212> PRT
<213> Artificial Sequence
```

<220>
<223> 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 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> 177
<211> 587
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 Ser Gly Gly Pro Gly Pro Ala

```
                                        500
    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> 178
<211> 458
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 179
<211> 579
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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
```

```
                                                507
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>
<223> 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 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
```

```
                                                510
                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> 579
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 182
<211> 581
<212> PRT
<213> Artificial Sequence

<220>
<223> 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

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
```

517

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> 183
<211> 613
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 183

```
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

```
                                                520
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> 184

<400> 184
000

<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

<400> 191
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<210> 192
<211> 267
<212> PRT
<213> Artificial Sequence

<220>
<223> 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 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> 193
<211> 269
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 193
```
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> 194
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 194
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 Gly Gly Gly Gly Gly Leu Asp Gly Asn
35 40 45

Glu Glu Pro Gly Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly
50 55 60

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

Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg

85 90 95

Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser
100 105 110

Val Ser Ser Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 195
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 195
Gly Pro Ala Gly Leu Tyr Ala Gln
1 5

<210> 196
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 196
Gly Pro Ala Gly Met Lys Gly Leu
1 5

<210> 197
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 197

Pro Gly Gly Pro Ala Gly Ile Gly
1 5

<210> 198
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 198
Ala Leu Phe Lys Ser Ser Phe Pro
1 5

<210> 199
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 199
Ala Leu Phe Phe Ser Ser Pro Pro
1 5

<210> 200
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 200
Leu Ala Gln Arg Leu Arg Ser Ser
1 5

<210> 201
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 201
Leu Ala Gln Lys Leu Lys Ser Ser
1 5

<210> 202
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 202
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> 203
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 203
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> 204
<211> 30

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 204
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> 205
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 205
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> 206
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 206
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

530
20 25 30

<210> 207
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 207
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> 208
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 208
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> 209
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 209

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> 210
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 210
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> 211
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 211
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> 212
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 212
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> 213
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 213
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> 214
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 214
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> 215
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 215
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> 216
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 216
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> 217
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 217
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> 218
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 218
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> 219
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 219
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> 220
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 220
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> 221
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 221
Gly Pro Leu Gly Val Arg Gly
1 5

<210> 222
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 222
Ile Pro Val Ser Leu Arg Ser Gly
1 5

<210> 223
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 223
Val Pro Leu Ser Leu Tyr Ser Gly

1 5

<210> 224
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 224
Ser Gly Glu Ser Pro Ala Tyr Tyr Thr Ala
1 5 10

<210> 225
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 225
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> 226
<211> 426
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 226
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> 227
<211> 428
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 227
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> 228
<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 228
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
```

```
                                                545
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> 229

<211> 425
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 229
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
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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> 230
<211> 427
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<220>
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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

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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
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550
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> 231
<211> 5
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 231

Gly Gly Gly Gly Ser
1 5

<210> 232
<211> 5
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 232
Gly Gly Gly Gly Ser
1 5

<210> 233
<211> 6
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 233
Gly Ser Gly Ser Gly Ser
1 5

<210> 234
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 234
Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Thr
1 5 10

<210> 235
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

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Leu Ala Gln Lys Ser Lys Ser Ser
1 5

<210> 236
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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peptide

<400> 236
Ala Leu Phe Phe Ser Ser Pro Pro Ser
1 5

<210> 237
<211> 5
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
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<220>
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<222> (3)..(3)
<223> Any amino acid

<400> 237
Leu Pro Xaa Thr Gly
1 5

<210> 238
<211> 25
<212> PRT
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<220>
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peptide

<220>
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<222> (1)..(25)
<223> This sequence may encompass 1-5 "Gly Gly Gly Gly Ser"
repeating units

<400> 238
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> 239
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (1)..(20)
<223> This sequence may encompass 1-5 "Gly Gly Gly Ser"
repeating units

<400> 239
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> 240
<211> 7
<212> PRT

<213> Unknown

<220>
<223> Description of Unknown:
Protease cathepsin S cleavage site sequence

<400> 240
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1 5

<210> 241
<211> 5
<212> PRT
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<220>
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peptide

<400> 241
Gly Gly Gly Gly Ser
1 5

<210> 242
<211> 15
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<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 242
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 243
<211> 6
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic
6xHis tag

<400> 243

His His His His His His
1 5

<210> 244
<211> 12
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<220>
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<220>
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<223> N-3-(2,4-dinitrophenyl)-L-2,3-diaminopropionyl

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<210> 245
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 245
Ala Leu Phe Phe Ser Ser Pro Pro Lys
1 5

<210> 246
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<400> 246
Ala Leu Phe Phe Ser Ser Pro Pro Ser Lys

1 5 10

<210> 247
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Pro Gly Gly Pro Ala Gly Ile Gly Ala Leu Phe
1 5 10

<210> 248
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 248
Phe Asn Pro Arg Thr Phe Gly Ser
1 5

<210> 249
<211> 8
<212> PRT
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<220>
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Arg Lys Arg Arg Gly Ser Arg Gly
1 5

<210> 250
<211> 7
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<220>
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Lys Leu Lys Ser Ser Gly Pro
1 5

<210> 251
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Lys Leu Lys Ser Ser Ala Leu Phe
1 5

<210> 252
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Arg Leu Arg Ser Ser Ala Leu Phe
1 5

<210> 253
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Leu Ala Gln Arg Leu Ser Ser

1 5

<210> 254
<211> 4
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<210> 255
<211> 4
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<220>
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<400> 255
Phe Asn Pro Arg
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<210> 256
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<400> 256
Gln Lys Leu Lys
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<210> 257
<211> 4
<212> PRT
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<220>
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peptide

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Ala Leu Phe Lys
1

<210> 258
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1 5

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1 5

<210> 260
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peptide

<400> 260
Ser Pro Leu Gly Leu Lys Ala Gln

1 5

<210> 261
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1 5

<210> 262
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1 5

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Phe Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 264
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Pro Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 266
<211> 8
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<400> 266
Ala Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 267
<211> 8
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1 5

<210> 268
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1 5

<210> 269
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1 5

<210> 270
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<210> 273
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1 5

<210> 274
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1 5

<210> 275
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1 5

<210> 276
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Gly Pro Ala Gly Leu Lys Ala Gln
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<210> 277
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1 5

<210> 278
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<210> 280
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1 5

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1 5

<210> 282
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<210> 283
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Gly Pro Ala Gly Leu Arg Gly Ala
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<210> 284
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Leu Pro Ala Gly Leu Val Gly Ala
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<210> 285
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1 5

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Gly Pro Leu His Leu Lys Ala Gln

1 5

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<210> 295
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Gly Pro Leu Gly Leu Phe Ala Gln
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1 5

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Gly Pro Leu Gly Leu Glu Ala Gln
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<400> 303
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1 5

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<210> 307
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<400> 307
Gly Pro Leu Gly Leu Lys Leu Gln
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<210> 308
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1 5

<210> 310
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1 5

<210> 311
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1 5

<210> 312
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1 5

<210> 313
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1 5

<210> 314
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<400> 314
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1 5

<210> 315
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1 5

<210> 316
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Gly Pro Leu Gly Leu Lys Ala Gly

1 5

<210> 317
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<400> 317
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1 5

<210> 318
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<210> 319
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<400> 319
Gly Pro Leu Gly Leu Lys Ala Leu
1 5

<210> 320
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<400> 320
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1 5

<210> 321
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1 5

<210> 322
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1 5

<210> 323
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1 5

<210> 324
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1 5

<210> 325
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1 5

<210> 326
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1 5

<210> 327
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1 5

<210> 328
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1 5

<210> 329
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1 5

<210> 330
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<400> 330
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1 5

<210> 331
<211> 8
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1 5

<210> 332
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<220>
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<210> 333
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<220>
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1 5

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<210> 370
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Ala Leu Phe Lys Leu Ser Pro Pro
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<210> 373
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<210> 374
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<210> 396
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<210> 403
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<210> 404
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<210> 405
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<210> 406
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1 5

<210> 407
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1 5

<210> 408
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