SEQUENCE LISTING

<110> WEREWOLF THERAPEUTICS, INC.

<120> ACTIVATABLE IL-12 POLYPEPTIDES AND METHODS OF USE THEREOF

<130> 761146.402320

<140>
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<150> 63/027,276
<151> 2020-05-19

<160> 448

<170> PatentIn version 3.5

<210> 1
<211> 520
<212> PRT
<213> Artificial Sequence

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

<400> 1
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys

```
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala His His His His His His
        515                 520
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<210> 2

<211> 524
<212> PRT
<213> Artificial Sequence

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

<400> 2
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> 3
<211> 940
<212> PRT
<213> Artificial Sequence

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

<400> 3
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> 4
<211> 940
<212> PRT
<213> Artificial Sequence

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

<400> 4
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> 5
<211> 940
<212> PRT
<213> Artificial Sequence

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

<400> 5
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
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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> 6
<211> 940
<212> PRT
<213> Artificial Sequence

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

<400> 6
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

```
Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750
```

```
Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe Gly
        835                 840                 845

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
    850                 855                 860

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
            900                 905                 910

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
        915                 920                 925

Ser Ser His His His His His His Glu Pro Glu Ala
    930                 935                 940
```

<210> 7
<211> 940
<212> PRT
<213> Artificial Sequence

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

<400> 7
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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620
```

```
Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640


Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655


Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670


Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685


Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700


Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720


Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735


Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750


Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765


Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780


Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn Ser
            820                 825                 830


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

```
        835                 840                 845

Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
    850                 855                 860

Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr
            900                 905                 910

Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr Val
        915                 920                 925

Ser Ser His His His His His His Glu Pro Glu Ala
    930                 935                 940


<210> 8
<211> 810
<212> PRT
<213> Artificial Sequence

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

<400> 8
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60
```

```
Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285
```

```
Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495
```

```
Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720
```

```
Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735


Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750


Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765


Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780


Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800


His His His His His His Glu Pro Glu Ala
                805                 810


<210> 9
<211> 520
<212> PRT
<213> Artificial Sequence

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

<400> 9
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
```

```
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285
```

```
Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
```

500 505 510

Ser Ala His His His His His His
515 520

<210> 10
<211> 936
<212> PRT
<213> Artificial Sequence

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

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

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

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160


Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175


Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190


Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205


Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220


Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240


Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255


Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270


Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285


Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300


Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320


Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335


Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350


Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575
```

```
Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser His His His His His His
    930                 935


<210> 11
<211> 936
<212> PRT
<213> Artificial Sequence

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

<400> 11
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
```

```
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240
```

```
Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
```

```
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
                805                 810                 815

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
930 935

<210> 12
<211> 1405
<212> PRT
<213> Artificial Sequence

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

<400> 12
Glu Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu
1 5 10 15

Gln His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln
20 25 30

Lys Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu
65 70 75 80

Arg Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu
100 105 110

```
Pro Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys
        115                 120                 125

Glu Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln
145                 150                 155                 160

Tyr Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser
                165                 170                 175

Cys Leu Thr Pro Lys Leu Asp Gly Val Lys Glu Lys Ala Leu Val Ser
            180                 185                 190

Ser Val Arg Gln Arg Met Lys Cys Ser Ser Met Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Thr Phe Pro
    210                 215                 220

Asn Ala Asp Phe Ala Glu Ile Thr Lys Leu Ala Thr Asp Leu Thr Lys
225                 230                 235                 240

Val Asn Lys Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Glu Leu Ala Lys Tyr Met Cys Glu Asn Gln Ala Thr Ile Ser
            260                 265                 270

Ser Lys Leu Gln Thr Cys Cys Asp Lys Pro Leu Leu Lys Lys Ala His
        275                 280                 285

Cys Leu Ser Glu Val Glu His Asp Thr Met Pro Ala Asp Leu Pro Ala
    290                 295                 300

Ile Ala Ala Asp Phe Val Glu Asp Gln Glu Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

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

```
Arg His Pro Asp Tyr Ser Val Ser Leu Leu Leu Arg Leu Ala Lys Lys
            340                 345                 350

Tyr Glu Ala Thr Leu Glu Lys Cys Cys Ala Glu Ala Asn Pro Pro Ala
        355                 360                 365

Cys Tyr Gly Thr Val Leu Ala Glu Phe Gln Pro Leu Val Glu Glu Pro
    370                 375                 380

Lys Asn Leu Val Lys Thr Asn Cys Asp Leu Tyr Glu Lys Leu Gly Glu
385                 390                 395                 400

Tyr Gly Phe Gln Asn Ala Ile Leu Val Arg Tyr Thr Gln Lys Ala Pro
                405                 410                 415

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

Val Gly Thr Lys Cys Cys Thr Leu Pro Glu Asp Gln Arg Leu Pro Cys
        435                 440                 445

Val Glu Asp Tyr Leu Ser Ala Ile Leu Asn Arg Val Cys Leu Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Glu His Val Thr Lys Cys Cys Ser Gly Ser
465                 470                 475                 480

Leu Val Glu Arg Arg Pro Cys Phe Ser Ala Leu Thr Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Lys Ala Glu Thr Phe Thr Phe His Ser Asp
            500                 505                 510

Ile Cys Thr Leu Pro Glu Lys Glu Lys Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Ala Glu Leu Val Lys His Lys Pro Lys Ala Thr Ala Glu Gln Leu
    530                 535                 540
```

```
Lys Thr Val Met Asp Asp Phe Ala Gln Phe Leu Asp Thr Cys Cys Lys
545                 550                 555                 560

Ala Ala Asp Lys Asp Thr Cys Phe Ser Thr Glu Gly Pro Asn Leu Val
                565                 570                 575

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

Met Lys Gly Leu Pro Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr
        595                 600                 605

Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val
    610                 615                 620

Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp
625                 630                 635                 640

Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val
                645                 650                 655

Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu
            660                 665                 670

Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile
        675                 680                 685

Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr
    690                 695                 700

Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp
705                 710                 715                 720

Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser
                725                 730                 735

Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu
            740                 745                 750

Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val
        755                 760                 765
```

```
Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro
    770                 775                 780

Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr
785                 790                 795                 800

Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys
                805                 810                 815

Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser
            820                 825                 830

Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu
        835                 840                 845

Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp
    850                 855                 860

Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn
865                 870                 875                 880

Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp
                885                 890                 895

Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly
            900                 905                 910

Gly Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro
        915                 920                 925

Ala Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp
    930                 935                 940

Met Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala
945                 950                 955                 960

Glu Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu
                965                 970                 975
```

```
Lys Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala
            980                 985                 990

Thr Arg Glu Thr Ser Ser Thr Thr  Arg Gly Ser Cys Leu  Pro Pro Gln
        995                 1000                1005

Lys Thr  Ser Leu Met Met Thr  Leu Cys Leu Gly Ser  Ile Tyr Glu
    1010                1015                1020

Asp Leu  Lys Met Tyr Gln Thr  Glu Phe Gln Ala Ile  Asn Ala Ala
    1025                1030                1035

Leu Gln  Asn His Asn His Gln  Gln Ile Ile Leu Asp  Lys Gly Met
    1040                1045                1050

Leu Val  Ala Ile Asp Glu Leu  Met Gln Ser Leu Asn  His Asn Gly
    1055                1060                1065

Glu Thr  Leu Arg Gln Lys Pro  Pro Val Gly Glu Ala  Asp Pro Tyr
    1070                1075                1080

Arg Val  Lys Met Lys Leu Cys  Ile Leu Leu His Ala  Phe Ser Thr
    1085                1090                1095

Arg Val  Val Thr Ile Asn Arg  Val Met Gly Tyr Leu  Ser Ser Ala
    1100                1105                1110

Ser Gly  Gly Pro Gly Pro Ala  Gly Met Lys Gly Leu  Pro Gly Ser
    1115                1120                1125

Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser
    1130                1135                1140

Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser Gly Gly  Gly Gly Ser
    1145                1150                1155

Gln Ser  Val Leu Thr Gln Pro  Pro Ser Val Ser Gly  Ala Pro Gly
    1160                1165                1170

Gln Arg  Val Thr Ile Ser Cys  Ser Gly Ser Arg Ser  Asn Ile Gly
    1175                1180                1185
```

```
Ser Asn  Thr Val Lys Trp Tyr  Gln Gln Leu Pro Gly  Thr Ala Pro
    1190                1195                1200

Lys Leu  Leu Ile Tyr Tyr Asn  Asp Gln Arg Pro Ser  Gly Val Pro
    1205                1210                1215

Asp Arg  Phe Ser Gly Ser Lys  Ser Gly Thr Ser Ala  Ser Leu Ala
    1220                1225                1230

Ile Thr  Gly Leu Gln Ala Glu  Asp Glu Ala Asp Tyr  Tyr Cys Gln
    1235                1240                1245

Ser Tyr  Asp Arg Tyr Thr His  Pro Ala Leu Leu Phe  Gly Thr Gly
    1250                1255                1260

Thr Lys  Val Thr Val Leu Gly  Gly Gly Gly Ser Gly  Gly Gly Gly
    1265                1270                1275

Ser Gly  Gly Gly Gly Ser Gln  Val Gln Leu Val Glu  Ser Gly Gly
    1280                1285                1290

Gly Val  Val Gln Pro Gly Arg  Ser Leu Arg Leu Ser  Cys Ala Ala
    1295                1300                1305

Ser Gly  Phe Thr Phe Ser Ser  Tyr Gly Met His Trp  Val Arg Gln
    1310                1315                1320

Ala Pro  Gly Lys Gly Leu Glu  Trp Val Ala Phe Ile  Arg Tyr Asp
    1325                1330                1335

Gly Ser  Asn Lys Tyr Tyr Ala  Asp Ser Val Lys Gly  Arg Phe Thr
    1340                1345                1350

Ile Ser  Arg Asp Asn Ser Lys  Asn Thr Leu Tyr Leu  Gln Met Asn
    1355                1360                1365

Ser Leu  Arg Ala Glu Asp Thr  Ala Val Tyr Tyr Cys  Lys Thr His
    1370                1375                1380
```

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
    1385   1390   1395

Ser His His His His His His
    1400   1405

<210> 13
<211> 1405
<212> PRT
<213> Artificial Sequence

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

<400> 13
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

```
Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
```

```
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575
```

```
Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
```

```
785                 790                 795                 800

Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Glu
                805                 810                 815

Ala His Lys Ser Glu Ile Ala His Arg Tyr Asn Asp Leu Gly Glu Gln
            820                 825                 830

His Phe Lys Gly Leu Val Leu Ile Ala Phe Ser Gln Tyr Leu Gln Lys
        835                 840                 845

Cys Ser Tyr Asp Glu His Ala Lys Leu Val Gln Glu Val Thr Asp Phe
    850                 855                 860

Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Ala Asn Cys Asp Lys Ser
865                 870                 875                 880

Leu His Thr Leu Phe Gly Asp Lys Leu Cys Ala Ile Pro Asn Leu Arg
                885                 890                 895

Glu Asn Tyr Gly Glu Leu Ala Asp Cys Cys Thr Lys Gln Glu Pro Glu
            900                 905                 910

Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Ser Leu Pro
        915                 920                 925

Pro Phe Glu Arg Pro Glu Ala Glu Ala Met Cys Thr Ser Phe Lys Glu
    930                 935                 940

Asn Pro Thr Thr Phe Met Gly His Tyr Leu His Glu Val Ala Arg Arg
945                 950                 955                 960

His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Tyr Tyr Ala Glu Gln Tyr
                965                 970                 975

Asn Glu Ile Leu Thr Gln Cys Cys Ala Glu Ala Asp Lys Glu Ser Cys
            980                 985                 990

Leu Thr Pro Lys Leu Asp Gly Val  Lys Glu Lys Ala Leu  Val Ser Ser
        995                 1000                1005
```

```
Val Arg  Gln Arg Met Lys Cys  Ser Ser Met Gln Lys  Phe Gly Glu
    1010                1015                1020

Arg Ala  Phe Lys Ala Trp Ala  Val Ala Arg Leu Ser  Gln Thr Phe
    1025                1030                1035

Pro Asn  Ala Asp Phe Ala Glu  Ile Thr Lys Leu Ala  Thr Asp Leu
    1040                1045                1050

Thr Lys  Val Asn Lys Glu Cys  Cys His Gly Asp Leu  Leu Glu Cys
    1055                1060                1065

Ala Asp  Asp Arg Ala Glu Leu  Ala Lys Tyr Met Cys  Glu Asn Gln
    1070                1075                1080

Ala Thr  Ile Ser Ser Lys Leu  Gln Thr Cys Cys Asp  Lys Pro Leu
    1085                1090                1095

Leu Lys  Lys Ala His Cys Leu  Ser Glu Val Glu His  Asp Thr Met
    1100                1105                1110

Pro Ala  Asp Leu Pro Ala Ile  Ala Ala Asp Phe Val  Glu Asp Gln
    1115                1120                1125

Glu Val  Cys Lys Asn Tyr Ala  Glu Ala Lys Asp Val  Phe Leu Gly
    1130                1135                1140

Thr Phe  Leu Tyr Glu Tyr Ser  Arg Arg His Pro Asp  Tyr Ser Val
    1145                1150                1155

Ser Leu  Leu Leu Arg Leu Ala  Lys Lys Tyr Glu Ala  Thr Leu Glu
    1160                1165                1170

Lys Cys  Cys Ala Glu Ala Asn  Pro Pro Ala Cys Tyr  Gly Thr Val
    1175                1180                1185

Leu Ala  Glu Phe Gln Pro Leu  Val Glu Glu Pro Lys  Asn Leu Val
    1190                1195                1200

Lys Thr  Asn Cys Asp Leu Tyr  Glu Lys Leu Gly Glu  Tyr Gly Phe
```

```
    1205                1210                1215

Gln Asn  Ala Ile Leu Val Arg  Tyr Thr Gln Lys Ala  Pro Gln Val
    1220                1225                1230

Ser Thr  Pro Thr Leu Val Glu  Ala Ala Arg Asn Leu  Gly Arg Val
    1235                1240                1245

Gly Thr  Lys Cys Cys Thr Leu  Pro Glu Asp Gln Arg  Leu Pro Cys
    1250                1255                1260

Val Glu  Asp Tyr Leu Ser Ala  Ile Leu Asn Arg Val  Cys Leu Leu
    1265                1270                1275

His Glu  Lys Thr Pro Val Ser  Glu His Val Thr Lys  Cys Cys Ser
    1280                1285                1290

Gly Ser  Leu Val Glu Arg Arg  Pro Cys Phe Ser Ala  Leu Thr Val
    1295                1300                1305

Asp Glu  Thr Tyr Val Pro Lys  Glu Phe Lys Ala Glu  Thr Phe Thr
    1310                1315                1320

Phe His  Ser Asp Ile Cys Thr  Leu Pro Glu Lys Glu  Lys Gln Ile
    1325                1330                1335

Lys Lys  Gln Thr Ala Leu Ala  Glu Leu Val Lys His  Lys Pro Lys
    1340                1345                1350

Ala Thr  Ala Glu Gln Leu Lys  Thr Val Met Asp Asp  Phe Ala Gln
    1355                1360                1365

Phe Leu  Asp Thr Cys Cys Lys  Ala Ala Asp Lys Asp  Thr Cys Phe
    1370                1375                1380

Ser Thr  Glu Gly Pro Asn Leu  Val Thr Arg Cys Lys  Asp Ala Leu
    1385                1390                1395

Ala His  His His His His His
    1400                1405
```

<210> 14
<211> 1048
<212> PRT
<213> Artificial Sequence

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

<400> 14
Val Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu
1 5 10 15

Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr
20 25 30

Ile Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys
35 40 45

Asp Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val
50 55 60

His Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe
65 70 75 80

Arg Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val
115 120 125

Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser
130 135 140

Leu Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu
145 150 155 160

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

```
Ile Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
            180                 185                 190

Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val Leu
        195                 200                 205

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His Ser
    210                 215                 220

Pro Gly Lys Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
225                 230                 235                 240

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
                245                 250                 255

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
            260                 265                 270

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
        275                 280                 285

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
    290                 295                 300

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
305                 310                 315                 320

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
                325                 330                 335

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
            340                 345                 350

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
        355                 360                 365

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
    370                 375                 380
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
385                 390                 395                 400

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
                405                 410                 415

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
            420                 425                 430

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
        435                 440                 445

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
    450                 455                 460

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
465                 470                 475                 480

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
                485                 490                 495

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
            500                 505                 510

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
        515                 520                 525

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
    530                 535                 540

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
545                 550                 555                 560

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
                565                 570                 575

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
            580                 585                 590

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
        595                 600                 605
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
    610                 615                 620

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
625                 630                 635                 640

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
                645                 650                 655

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
            660                 665                 670

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
        675                 680                 685

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
    690                 695                 700

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
705                 710                 715                 720

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
                725                 730                 735

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
            740                 745                 750

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
        755                 760                 765

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
    770                 775                 780

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
785                 790                 795                 800

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
                805                 810                 815
```

```
Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
            820                 825                 830

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
        835                 840                 845

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
    850                 855                 860

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
865                 870                 875                 880

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
                885                 890                 895

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
            900                 905                 910

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
        915                 920                 925

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
    930                 935                 940

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
945                 950                 955                 960

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
                965                 970                 975

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
            980                 985                 990

Gly Arg Phe Thr Ile Ser Arg Asp  Asn Ser Lys Asn Thr  Leu Tyr Leu
        995                 1000                1005

Gln Met  Asn Ser Leu Arg Ala  Glu Asp Thr Ala Val  Tyr Tyr Cys
    1010                1015                1020

Lys Thr  His Gly Ser His Asp  Asn Trp Gly Gln Gly  Thr Met Val
    1025                1030                1035
```

Thr Val Ser Ser His His His His His His
    1040   1045

<210> 15
<211> 1048
<212> PRT
<213> Artificial Sequence

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

<400> 15
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly

```
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365
```

```
Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly
        515                 520                 525

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    530                 535                 540

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
545                 550                 555                 560

Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg
                565                 570                 575

Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr
```

```
            580                 585                 590

Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile
        595                 600                 605

Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly
    610                 615                 620

Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala
625                 630                 635                 640

Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His
                645                 650                 655

Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly
            660                 665                 670

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln
        675                 680                 685

Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
    690                 695                 700

Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His
705                 710                 715                 720

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile
                725                 730                 735

Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg
            740                 745                 750

Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met
        755                 760                 765

Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His
    770                 775                 780

Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
785                 790                 795                 800
```

```
Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Val
                805                 810                 815

Pro Arg Asp Cys Gly Cys Lys Pro Cys Ile Cys Thr Val Pro Glu Val
            820                 825                 830

Ser Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp Val Leu Thr Ile
        835                 840                 845

Thr Leu Thr Pro Lys Val Thr Cys Val Val Val Asp Ile Ser Lys Asp
    850                 855                 860

Asp Pro Glu Val Gln Phe Ser Trp Phe Val Asp Asp Val Glu Val His
865                 870                 875                 880

Thr Ala Gln Thr Gln Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg
                885                 890                 895

Ser Val Ser Glu Leu Pro Ile Met His Gln Asp Trp Leu Asn Gly Lys
            900                 905                 910

Glu Phe Lys Cys Arg Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu
        915                 920                 925

Lys Thr Ile Ser Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr
    930                 935                 940

Thr Ile Pro Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu
945                 950                 955                 960

Thr Cys Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp
                965                 970                 975

Gln Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile
            980                 985                 990

Met Asp Thr Asp Gly Ser Tyr Phe  Val Tyr Ser Lys Leu  Asn Val Gln
        995                 1000                1005

Lys Ser  Asn Trp Glu Ala Gly  Asn Thr Phe Thr Cys  Ser Val Leu
```

1010 1015 1020

His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser His
1025 1030 1035

Ser Pro Gly Lys His His His His His His
1040 1045

<210> 16
<211> 936
<212> PRT
<213> Artificial Sequence

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

<400> 16
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

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

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780
```

```
Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser His His His His His His
    930                 935


<210> 17
<211> 817
<212> PRT
<213> Artificial Sequence

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

<400> 17
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
```

```
1               5                   10                  15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

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

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655
```

```
Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly
    690                 695                 700

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Arg Thr Phe Ser Ser
705                 710                 715                 720

Val Tyr Asp Met Gly Trp Phe Arg Gln Ala Pro Gly Lys Asp Arg Glu
                725                 730                 735

Phe Val Ala Arg Ile Thr Glu Ser Ala Arg Asn Thr Arg Tyr Ala Asp
            740                 745                 750

Ser Val Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr
        755                 760                 765

Val Tyr Leu Gln Met Asn Asn Leu Glu Leu Glu Asp Ala Ala Val Tyr
    770                 775                 780

Tyr Cys Ala Ala Asp Pro Gln Thr Val Val Val Gly Thr Pro Asp Tyr
785                 790                 795                 800

Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser His His His His His
                805                 810                 815

His
```

<210> 18
<211> 306
<212> PRT
<213> Artificial Sequence

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

<400> 18
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

```
Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220


Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240


Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255


Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270


Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285


Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300


Cys Ser
305


<210> 19
<211> 609
<212> PRT
<213> Artificial Sequence

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

<400> 19
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


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


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

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

Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly
```

```
        275                 280                 285

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
                485                 490                 495
```

```
Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
            500                 505                 510


Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
        515                 520                 525


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
    530                 535                 540


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
545                 550                 555                 560


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
                565                 570                 575


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
            580                 585                 590


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
        595                 600                 605


Ser
```

<210> 20
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 20

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


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


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

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

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

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Ser Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480
```

```
Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Ser Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685
```

```
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910
```

```
Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930
```

<210> 21
<211> 935
<212> PRT
<213> Artificial Sequence

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

<400> 21

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


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


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


Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
```

```
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Gly Gly Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro
    450                 455                 460

Ala Arg Cys Leu Ser Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp
465                 470                 475                 480

Met Val Lys Thr Ala Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala
                485                 490                 495

Glu Asp Ile Asp His Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu
            500                 505                 510

Lys Thr Cys Leu Pro Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala
        515                 520                 525

Thr Arg Glu Thr Ser Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln
    530                 535                 540

Lys Thr Ser Leu Met Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp
545                 550                 555                 560

Leu Lys Met Tyr Gln Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln
```

```
                565                 570                 575

Asn His Asn His Gln Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala
            580                 585                 590

Ile Asp Glu Leu Met Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg
        595                 600                 605

Gln Lys Pro Pro Val Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys
    610                 615                 620

Leu Cys Ile Leu Leu His Ala Phe Ser Thr Arg Val Val Thr Ile Asn
625                 630                 635                 640

Arg Val Met Gly Tyr Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala
                645                 650                 655

Gly Met Lys Gly Leu Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
    690                 695                 700

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
705                 710                 715                 720

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
                725                 730                 735

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
            740                 745                 750

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
        755                 760                 765

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
    770                 775                 780
```

```
Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
785                 790                 795                 800


Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                805                 810                 815


Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
            820                 825                 830


Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
        835                 840                 845


Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
    850                 855                 860


Leu Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr
865                 870                 875                 880


Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
                885                 890                 895


Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
            900                 905                 910


Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
        915                 920                 925


Thr Met Val Thr Val Ser Ser
    930                 935


<210> 22
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 22
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

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

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240


Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255


Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270


Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285


Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300


Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320


Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335


Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350


Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365


Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380


Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400


Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415


Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430


Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445
```

```
Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655
```

```
Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Cys Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Cys Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880
```

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
885 890 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 23
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 23
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr

```
            100                 105                 110

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

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
```

```
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Met Lys Gly Leu
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Cys Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750
```

```
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Cys Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 24
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 24
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415
```

```
Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620
```

```
His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640


Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655


Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670


Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685


Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700


Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720


Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735


Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750


Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765


Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780


Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845
```

```
Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 25
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 25

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

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

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

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

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
```

```
65                  70                  75                  80

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
```

```
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720
```

```
Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
```

930

<210> 26
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 26
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380
```

```
Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590
```

```
Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815
```

```
Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 27
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 27
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
```

```
        35                  40                  45

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
```

```
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685
```

```
Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
```

900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 28
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 28
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350
```

```
Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780
```

```
Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 29
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 29
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
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1               5                   10                  15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655
```

```
Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
```

865 870 875 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 30
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 30
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320
```

```
Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525
```

```
Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750
```

```
Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 31
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 31
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
```

```
               405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
               485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
               565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620
```

```
Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
```

```
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 32
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 32
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

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

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

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285
```

```
Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720
```

```
Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925
```

Ser Ser
930

<210> 33
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 33
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
```

```
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590
```

```
Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

805 810 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 34
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 34
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255
```

```
Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685
```

```
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895
```

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 35
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 35
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
```

```
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560
```

```
Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
```

770 775 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785 790 795 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
805 810 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 36
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 36

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220
```

```
Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655
```

```
Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860
```

```
Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930
```

<210> 37
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 37

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


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


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


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


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


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

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
```

```
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525
```

```
Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
```

```
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 38
<211> 930
<212> PRT

<213> Artificial Sequence

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

<400> 38
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620
```

```
His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640


Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655


Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670


Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685


Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700


Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720


Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735


Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750


Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765


Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780


Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830
```

```
Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 39
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 39

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

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

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

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
```

```
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495
```

```
Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
```

```
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925
```

Met Val Thr Val Ser Ser
    930

<210> 40
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 40
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590
```

```
Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 41
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 41
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
```

```
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460
```

```
Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
```

```
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895
```

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 42
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 42
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765
```

```
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 43
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 43
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165   170   175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180   185   190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195   200   205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile

```
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
```

```
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860
```

```
Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 44
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 44
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


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


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


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


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

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525
```

```
Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735
```

```
Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 45
<211> 934

<212> PRT
<213> Artificial Sequence

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

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp

```
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
```

```
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830
```

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 46
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 46
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700
```

```
Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925
```

Ser Ser
    930

<210> 47
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 47
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr

```
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
```

```
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800
```

```
Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815


Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830


Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845


Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860


Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880


Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925


Met Val Thr Val Ser Ser
    930


<210> 48
<211> 930
<212> PRT
<213> Artificial Sequence

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

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


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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895
```

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 49
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 49
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro

```
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
```

```
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765
```

```
Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 50
<211> 930
<212> PRT
<213> Artificial Sequence

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

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165   170   175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180   185   190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195   200   205

```
Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640
```

```
Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860
```

```
Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 51
<211> 934
<212> PRT
<213> Artificial Sequence

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

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


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


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


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


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


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

```
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
```

```
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735
```

```
Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 52

<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 52
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

```
Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605
```

```
Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830
```

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
835 840 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
850 855 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865 870 875 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
885 890 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 53
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 53
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val

```
    50                  55                  60

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
```

```
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700
```

```
Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720


Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735


Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750


Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765


Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780


Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800


Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815


Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830


Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845


Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860


Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880


Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
```

915 920 925

Met Val Thr Val Ser Ser
930

<210> 54
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 54
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160


Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175


Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190


Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205


Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220


Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240


Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255


Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270


Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285


Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300


Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320


Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335


Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350


Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575
```

```
Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815


Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830


Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845


Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860


Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880


Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895


Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910


Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925


Ser Ser
    930


<210> 55
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 55
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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

```
            20                  25                  30

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
```

```
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
```

885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 56
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 56
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

```
Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540
```

```
Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765
```

```
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 57
<211> 934
<212> PRT
<213> Artificial Sequence

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

polypeptide"

<400> 57

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205
```

```
Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
```

```
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640
```

```
Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
```

```
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 58
<211> 930
<212> PRT
<213> Artificial Sequence

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

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510
```

```
Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735
```

```
Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
        915                 920                 925

Ser Ser
    930
```

<210> 59
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 59
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

```
Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
```

```
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605
```

```
Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
```

820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 60
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 60
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480
```

```
Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700
```

```
Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
                885                 890                 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
            900                 905                 910
```

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 61
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 61
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
```

```
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575
```

```
Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
```

785 790 795 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
805 810 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
820 825 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
835 840 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
850 855 860

Glu Trp Val Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
865 870 875 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
885 890 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
900 905 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
915 920 925

Met Val Thr Val Ser Ser
930

<210> 62
<211> 930
<212> PRT
<213> Artificial Sequence

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

<400> 62
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445
```

```
Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
                805                 810                 815

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
            820                 825                 830

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
        835                 840                 845

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
    850                 855                 860

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
865                 870                 875                 880
```

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
885 890 895

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
900 905 910

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
915 920 925

Ser Ser
930

<210> 63
<211> 934
<212> PRT
<213> Artificial Sequence

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

<400> 63
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

```
Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
```

```
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540
```

```
Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
```

```
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930
```

<210> 64
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source

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

<400> 64
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
195 200 205

```
Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415
```

```
Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640
```

```
Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845
```

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850   855   860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865   870   875   880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885   890   895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900   905

<210> 65
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 65
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
```

```
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540
```

```
Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
```

```
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 66
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 66
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15
```

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445
```

```
Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880
```

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
885 890 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 67
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 67
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
```

```
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575
```

```
Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
```

785 790 795 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
805 810 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
820 825 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
835 840 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
850 855 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865 870 875 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
885 890 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905 910

<210> 68
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 68
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

```
Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480
```

```
Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700
```

```
Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 69
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 69
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

```
Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
```

```
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605
```

```
Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
```

820 825 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
835 840 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
850 855 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865 870 875 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
885 890 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905 910

<210> 70
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 70
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510
```

```
Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735
```

```
Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 71
<211> 910
<212> PRT
<213> Artificial Sequence

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

polypeptide"

<400> 71

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205
```

```
Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
```

```
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640
```

```
Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
```

```
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910
```

<210> 72
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 72

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110
```

```
Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540
```

```
Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765
```

```
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 73
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 73

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

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

```
            20                  25                  30

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
```

```
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
```

885 890 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905 910

<210> 74
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 74
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

```
Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160


Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175


Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190


Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205


Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220


Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240


Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255


Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270


Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285


Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300


Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320


Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335


Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350


Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575
```

```
Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
805 810 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
820 825 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
835 840 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
850 855 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865 870 875 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
885 890 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 75
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 75
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val

```
    50                  55                  60

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
```

```
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700
```

```
Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720


Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735


Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750


Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765


Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780


Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800


Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815


Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830


Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845


Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860


Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910
```

<210> 76

<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 76
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

```
Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605
```

```
Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830
```

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
835 840 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
850 855 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865 870 875 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
885 890 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 77
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 77
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

```
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
```

```
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly
                645                 650                 655

Leu Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735
```

```
Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910
```

<210> 78
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 78
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165   170   175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180   185   190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195   200   205

```
Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640
```

```
Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860
```

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865 870 875 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
885 890 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 79
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 79
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro

```
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
```

```
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765
```

```
Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 80
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 80
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240
```

```
Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460
```

```
Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895
```

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905

<210> 81
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 81
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr

```
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
```

```
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800
```

```
Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815


Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830


Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845


Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860


Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 82
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 82
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


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


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270
```

```
Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495
```

```
Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700
```

```
Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 83
<211> 910

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp

```
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
```

```
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830
```

```
Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845


Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860


Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 84
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 84
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


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


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


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


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

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300
```

```
Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525
```

```
Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
705                 710                 715                 720

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735
```

```
Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 85
<211> 910
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 85
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100   105   110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115   120   125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130   135   140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145   150   155   160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165   170   175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180   185   190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195   200   205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile

```
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430
```

```
Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
```

```
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860
```

```
Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880


Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895


Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 86
<211> 906
<212> PRT
<213> Artificial Sequence

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

<400> 86
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


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


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


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


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


Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110


Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125
```

```
Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335
```

```
Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560
```

```
Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser
705                 710                 715                 720

Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765
```

```
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905
```

<210> 87
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 87

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

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
```

```
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460
```

```
Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
```

```
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895
```

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905 910

<210> 88
<211> 906
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="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 Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

```
Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365
```

```
Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590
```

```
Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620

His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640

Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655

Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800
```

```
Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815


Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830


Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835                 840                 845


Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850                 855                 860


Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865                 870                 875                 880


Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885                 890                 895


Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905


<210> 89
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 89
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1               5                   10                  15


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


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


Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60
```

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
```

```
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495
```

```
Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525

Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
```

705 710 715 720

Asn Ile Gly Glu Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
725 730 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
740 745 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
755 760 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
770 775 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785 790 795 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
805 810 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
820 825 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
835 840 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
850 855 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865 870 875 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
885 890 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
900 905 910

<210> 90
<211> 906
<212> PRT

<213> Artificial Sequence

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

<400> 90
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

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

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

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

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

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

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
130 135 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145 150 155 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
165 170 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
180 185 190

```
Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400
```

```
Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser
    450                 455                 460

Gln Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala
465                 470                 475                 480

Arg Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His
                485                 490                 495

Glu Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro
            500                 505                 510

Leu Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser
        515                 520                 525

Ser Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met
    530                 535                 540

Met Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln
545                 550                 555                 560

Thr Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln
                565                 570                 575

Gln Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met
            580                 585                 590

Gln Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val
        595                 600                 605

Gly Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu
    610                 615                 620
```

```
His Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr
625                 630                 635                 640


Leu Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro
                645                 650                 655


Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670


Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
        675                 680                 685


Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
    690                 695                 700


Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu
705                 710                 715                 720


Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
                725                 730                 735


Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
            740                 745                 750


Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
        755                 760                 765


Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
    770                 775                 780


Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
785                 790                 795                 800


Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
                805                 810                 815


Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
            820                 825                 830
```

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
        835   840   845

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
    850   855   860

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
865   870   875   880

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
                885   890   895

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900   905

<210> 91
<211> 910
<212> PRT
<213> Artificial Sequence

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

<400> 91
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1   5   10   15

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

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

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

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

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

```
Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
        115                 120                 125

Gly Ser Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp
    130                 135                 140

Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val
                165                 170                 175

Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser
        195                 200                 205

Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile
    210                 215                 220

Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu
225                 230                 235                 240

Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile
                245                 250                 255

Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp
            260                 265                 270

Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val
        275                 280                 285

Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp
    290                 295                 300

Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val
```

```
305                 310                 315                 320

Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe
                325                 330                 335

Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys
            340                 345                 350

Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp
        355                 360                 365

Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln
    370                 375                 380

Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp
385                 390                 395                 400

Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val
                405                 410                 415

Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser
            420                 425                 430

Val Pro Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        435                 440                 445

Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe
    450                 455                 460

Pro Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met
465                 470                 475                 480

Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu
                485                 490                 495

Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu
            500                 505                 510

Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser
        515                 520                 525
```

```
Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys
    530                 535                 540

Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu
545                 550                 555                 560

Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met
                565                 570                 575

Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile
            580                 585                 590

Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln
        595                 600                 605

Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu
    610                 615                 620

Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg
625                 630                 635                 640

Val Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Glu Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
```

```
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe
                805                 810                 815

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
            820                 825                 830

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
        835                 840                 845

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
    850                 855                 860

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
865                 870                 875                 880

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
                885                 890                 895

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            900                 905                 910


<210> 92
<211> 218
<212> PRT
<213> Artificial Sequence

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

<400> 92
```

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

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

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

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

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

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

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            100                 105                 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
        115                 120                 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145                 150                 155                 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
                165                 170                 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215
```

<210> 93
<211> 218
<212> PRT
<213> Artificial Sequence

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

<400> 93
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

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

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

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
50 55 60

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

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

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
100 105 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
115 120 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
130 135 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145 150 155 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly

```
                165                 170                 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215
```

<210> 94
<211> 218
<212> PRT
<213> Artificial Sequence

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

<400> 94

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

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

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

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60

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

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

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            100                 105                 110
```

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
115 120 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
130 135 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145 150 155 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
165 170 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
180 185 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
195 200 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys
210 215

<210> 95
<211> 609
<212> PRT
<213> Artificial Sequence

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

<400> 95
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

Ser Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly
```

```
        275                 280                 285

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
                485                 490                 495
```

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
500 505 510

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
515 520 525

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
530 535 540

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
545 550 555 560

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
565 570 575

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
580 585 590

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
595 600 605

Ser

<210> 96
<211> 613
<212> PRT
<213> Artificial Sequence

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

<400> 96
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130                 135                 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145                 150                 155                 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165                 170                 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

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

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255
```

```
Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                325                 330                 335

Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480
```

```
Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                485                 490                 495


Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510


Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        515                 520                 525


Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    530                 535                 540


Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545                 550                 555                 560


Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                565                 570                 575


Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            580                 585                 590


Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
        595                 600                 605


Val Thr Val Ser Ser
    610


<210> 97
<211> 609
<212> PRT
<213> Artificial Sequence

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

<400> 97
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240
```

```
Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

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

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
```

```
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
                485                 490                 495

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
            500                 505                 510

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
        515                 520                 525

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
    530                 535                 540

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
545                 550                 555                 560

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
                565                 570                 575

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
            580                 585                 590

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
        595                 600                 605

Ser
```

<210> 98
<211> 613
<212> PRT
<213> Artificial Sequence

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

<400> 98

```
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130                 135                 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145                 150                 155                 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165                 170                 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220
```

```
Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys
225                 230                 235                 240

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                325                 330                 335

Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430
```

```
Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

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

Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        515                 520                 525

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    530                 535                 540

Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545                 550                 555                 560

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                565                 570                 575

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            580                 585                 590

Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
        595                 600                 605

Val Thr Val Ser Ser
    610
```

<210> 99
<211> 585
<212> PRT
<213> Artificial Sequence

<220>

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

<400> 99
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
130 135 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145 150 155 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
165 170 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
180 185 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser

```
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

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

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415
```

```
Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
                485                 490                 495

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
            500                 505                 510

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
        515                 520                 525

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
    530                 535                 540

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
545                 550                 555                 560

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
                565                 570                 575

Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585
```

<210> 100
<211> 589
<212> PRT
<213> Artificial Sequence

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

<400> 100
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130   135   140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145   150   155   160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165   170   175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180   185   190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195   200   205

```
Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

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

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                325                 330                 335

Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430
```

```
Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445


Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460


Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480


Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
                485                 490                 495


Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
            500                 505                 510


Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
        515                 520                 525


Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
    530                 535                 540


Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
545                 550                 555                 560


Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
                565                 570                 575


Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585


<210> 101
<211> 585
<212> PRT
<213> Artificial Sequence

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

<400> 101
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220
```

```
Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240


Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255


Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270


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


Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300


Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320


Ser Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro
                325                 330                 335


Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350


Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365


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


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
385                 390                 395                 400


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
```

```
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
                485                 490                 495

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
            500                 505                 510

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
        515                 520                 525

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
    530                 535                 540

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
545                 550                 555                 560

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
                565                 570                 575

Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585


<210> 102
<211> 589
<212> PRT
<213> Artificial Sequence

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

<400> 102
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130                 135                 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145                 150                 155                 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165                 170                 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys
225                 230                 235                 240
```

```
Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu
                325                 330                 335

Tyr Ala Gln Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445
```

```
Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460


Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480


Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
                485                 490                 495


Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
            500                 505                 510


Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
        515                 520                 525


Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
    530                 535                 540


Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
545                 550                 555                 560


Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
                565                 570                 575


Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585


<210> 103
<211> 609
<212> PRT
<213> Artificial Sequence

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

<400> 103
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
```

```
               245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

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

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460
```

```
His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
                485                 490                 495


Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
            500                 505                 510


Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
        515                 520                 525


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
    530                 535                 540


Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
545                 550                 555                 560


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
                565                 570                 575


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
            580                 585                 590


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
        595                 600                 605


Ser
```

<210> 104
<211> 613
<212> PRT
<213> Artificial Sequence

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

<400> 104

```
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130                 135                 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145                 150                 155                 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165                 170                 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220
```

```
Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys
225                 230                 235                 240

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445
```

```
Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

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

Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        515                 520                 525

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    530                 535                 540

Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545                 550                 555                 560

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                565                 570                 575

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            580                 585                 590

Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
        595                 600                 605

Val Thr Val Ser Ser
    610
```

<210> 105
<211> 609
<212> PRT
<213> Artificial Sequence

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

polypeptide"

<400> 105

```
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
    130                 135                 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145                 150                 155                 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205
```

```
Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

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

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
```

420 425 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
435 440 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
450 455 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465 470 475 480

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
485 490 495

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
500 505 510

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
515 520 525

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
530 535 540

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
545 550 555 560

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
565 570 575

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
580 585 590

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
595 600 605

Ser

<210> 106
<211> 613
<212> PRT

<213> Artificial Sequence

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

<400> 106
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
130 135 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145 150 155 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
165 170 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
180 185 190

```
Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

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

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400
```

```
Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

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

Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        515                 520                 525

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    530                 535                 540

Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545                 550                 555                 560

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                565                 570                 575

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            580                 585                 590

Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
        595                 600                 605

Val Thr Val Ser Ser
    610
```

<210> 107
<211> 585
<212> PRT
<213> Artificial Sequence

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

<400> 107
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
130 135 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145 150 155 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu

```
                165                 170                 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
            180                 185                 190

Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

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

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
    370                 375                 380
```

```
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
                405                 410                 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
            420                 425                 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
        435                 440                 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
    450                 455                 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465                 470                 475                 480

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
                485                 490                 495

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
            500                 505                 510

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
        515                 520                 525

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
    530                 535                 540

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
545                 550                 555                 560

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
                565                 570                 575

Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585
```

<210> 108

<211> 589
<212> PRT
<213> Artificial Sequence

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

<400> 108
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
130 135 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145 150 155 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
165 170 175

```
Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

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

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400
```

```
Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
                485                 490                 495

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
            500                 505                 510

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
        515                 520                 525

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
    530                 535                 540

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
545                 550                 555                 560

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
                565                 570                 575

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585
```

<210> 109
<211> 585
<212> PRT
<213> Artificial Sequence

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

<400> 109
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 Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln
130 135 140

Ser Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg
145 150 155 160

Glu Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu
165 170 175

Asp Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu
180 185 190

```
Glu Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser
        195                 200                 205

Thr Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met
    210                 215                 220

Thr Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr
225                 230                 235                 240

Glu Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln
                245                 250                 255

Ile Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln
            260                 265                 270

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

Glu Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His
    290                 295                 300

Ala Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu
305                 310                 315                 320

Ser Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        355                 360                 365

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

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
385                 390                 395                 400

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
```

405 410 415

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
420 425 430

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
435 440 445

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
450 455 460

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
465 470 475 480

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
485 490 495

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
500 505 510

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
515 520 525

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
530 535 540

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
545 550 555 560

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
565 570 575

Lys Thr Val Ala Pro Thr Glu Cys Ser
580 585

<210> 110
<211> 589
<212> PRT
<213> Artificial Sequence

<220>
<221> source

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

<400> 110
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
130 135 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145 150 155 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
165 170 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
180 185 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
195 200 205

```
Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

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

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

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

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415
```

```
Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro
                485                 490                 495

Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu
            500                 505                 510

Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp
        515                 520                 525

Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln
    530                 535                 540

Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu
545                 550                 555                 560

Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly
                565                 570                 575

Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
            580                 585
```

<210> 111
<211> 915
<212> PRT
<213> Artificial Sequence

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

<400> 111
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu

```
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430
```

```
Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
               645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
               725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
               805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860
```

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
865 870 875 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
885 890 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
900 905 910

Val Ser Ser
915

<210> 112
<211> 919
<212> PRT
<213> Artificial Sequence

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

<400> 112
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540
```

```
Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560


Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575


Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590


Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605


Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620


Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640


Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655


Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670


Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685


Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700


Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720


Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735


Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750
```

```
Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910

Thr Met Val Thr Val Ser Ser
        915
```

<210> 113
<211> 915
<212> PRT
<213> Artificial Sequence

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

<400> 113
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

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    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430
```

```
Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
               645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860
```

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
865 870 875 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
885 890 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
900 905 910

Val Ser Ser
915

<210> 114
<211> 919
<212> PRT
<213> Artificial Sequence

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

<400> 114
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320
```

```
Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540
```

```
Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750
```

```
Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910

Thr Met Val Thr Val Ser Ser
        915
```

<210> 115
<211> 891
<212> PRT
<213> Artificial Sequence

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

<400> 115
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu

```
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430
```

```
Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
```

```
               645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
               725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
               805                 810                 815

Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845

Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860
```

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865 870 875 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
885 890

<210> 116
<211> 895
<212> PRT
<213> Artificial Sequence

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

<400> 116
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

```
Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350
```

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

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575
```

```
Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780
```

```
Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800


Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815


Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830


Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845


Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850                 855                 860


Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865                 870                 875                 880


Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890                 895


<210> 117
<211> 891
<212> PRT
<213> Artificial Sequence

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

<400> 117
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60
```

```
Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
```

```
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495
```

```
Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
```

705 710 715 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
725 730 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
740 745 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
755 760 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
770 775 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785 790 795 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
805 810 815

Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
820 825 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
835 840 845

Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
850 855 860

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865 870 875 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
885 890

<210> 118
<211> 895
<212> PRT
<213> Artificial Sequence

<220>
<221> source

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

<400> 118
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145 150 155 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
165 170 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
180 185 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
195 200 205

```
Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

```
Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr
        515                 520                 525

Ala Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640
```

```
Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830

Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845
```

Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850   855   860

Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865   870   875   880

Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885   890   895

<210> 119
<211> 594
<212> PRT
<213> Artificial Sequence

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

<400> 119
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1   5   10   15

Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            20   25   30

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        35   40   45

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    50   55   60

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65   70   75   80

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                85   90   95

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            100   105   110

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
        115   120   125

```
Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    130                 135                 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145                 150                 155                 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
    370                 375                 380

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
465                 470                 475                 480

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
                485                 490                 495

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
            500                 505                 510

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
        515                 520                 525

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
    530                 535                 540

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
545                 550                 555                 560
```

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
565 570 575

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
580 585 590

Ser Ser

<210> 120
<211> 598
<212> PRT
<213> Artificial Sequence

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

<400> 120
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
115 120 125

```
Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
    130                 135                 140

Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        195                 200                 205

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
                485                 490                 495

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
            500                 505                 510

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
        515                 520                 525

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
    530                 535                 540

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
545                 550                 555                 560
```

```
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                565                 570                 575


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
            580                 585                 590


Met Val Thr Val Ser Ser
        595


<210> 121
<211> 594
<212> PRT
<213> Artificial Sequence

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

<400> 121
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1               5                   10                  15


Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            20                  25                  30


Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        35                  40                  45


Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    50                  55                  60


His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65                  70                  75                  80


Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                85                  90                  95


Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            100                 105                 110


Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
```

```
        115                 120                 125

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    130                 135                 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145                 150                 155                 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
    370                 375                 380

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
465                 470                 475                 480

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
                485                 490                 495

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
            500                 505                 510

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
        515                 520                 525

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
    530                 535                 540

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
```

545 550 555 560

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
565 570 575

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
580 585 590

Ser Ser

<210> 122
<211> 598
<212> PRT
<213> Artificial Sequence

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

<400> 122
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

```
Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
        115                 120                 125

Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
    130                 135                 140

Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        195                 200                 205

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
                485                 490                 495

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
            500                 505                 510

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
        515                 520                 525

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
    530                 535                 540
```

```
Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
545                 550                 555                 560


Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                565                 570                 575


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
            580                 585                 590


Met Val Thr Val Ser Ser
        595


<210> 123
<211> 570
<212> PRT
<213> Artificial Sequence

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

<400> 123
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1               5                   10                  15


Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            20                  25                  30


Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        35                  40                  45


Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    50                  55                  60


His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65                  70                  75                  80


Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                85                  90                  95


Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            100                 105                 110
```

```
Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
        115                 120                 125

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    130                 135                 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145                 150                 155                 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
```

```
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
    370                 375                 380

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

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

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
                485                 490                 495

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
            500                 505                 510

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
        515                 520                 525

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
    530                 535                 540
```

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
545 550 555 560

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
565 570

<210> 124
<211> 574
<212> PRT
<213> Artificial Sequence

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

<400> 124
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
115 120 125

Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
130 135 140

```
Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        195                 200                 205

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350
```

```
Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

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

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
                485                 490                 495

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
            500                 505                 510

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
        515                 520                 525

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
    530                 535                 540

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
545                 550                 555                 560

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                565                 570
```

<210> 125
<211> 570
<212> PRT
<213> Artificial Sequence

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

<400> 125
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1 5 10 15

Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
20 25 30

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
35 40 45

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
50 55 60

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65 70 75 80

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
85 90 95

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
100 105 110

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
115 120 125

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
130 135 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145 150 155 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe

```
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala Gln Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
    370                 375                 380
```

```
Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

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

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
                485                 490                 495

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
            500                 505                 510

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
        515                 520                 525

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
    530                 535                 540

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
545                 550                 555                 560

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                565                 570
```

<210> 126
<211> 574
<212> PRT
<213> Artificial Sequence

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

<400> 126
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
115 120 125

Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
130 135 140

Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145 150 155 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
165 170 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
180 185 190

```
Tyr Leu Asn Ala Ser Ser Gly Gly Pro Gly Pro Ala Gly Leu Tyr Ala
        195                 200                 205

Gln Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415
```

```
Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

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

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
                485                 490                 495

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
            500                 505                 510

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
        515                 520                 525

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
    530                 535                 540

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
545                 550                 555                 560

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                565                 570
```

<210> 127
<211> 915
<212> PRT
<213> Artificial Sequence

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

<400> 127

```
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
```

```
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220
```

```
Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
```

```
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
```

865 870 875 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
885 890 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
900 905 910

Val Ser Ser
915

<210> 128
<211> 919
<212> PRT
<213> Artificial Sequence

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

<400> 128
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335
```

```
Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540
```

```
Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765
```

```
Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910

Thr Met Val Thr Val Ser Ser
        915
```

<210> 129
<211> 915
<212> PRT
<213> Artificial Sequence

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

<400> 129

```
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
```

```
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220
```

```
Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
```

```
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785                 790                 795                 800

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
                805                 810                 815

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            820                 825                 830

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        835                 840                 845

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
    850                 855                 860

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
```

865 870 875 880

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
885 890 895

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
900 905 910

Val Ser Ser
915

<210> 130
<211> 919
<212> PRT
<213> Artificial Sequence

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

<400> 130
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

```
Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335
```

```
Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540
```

```
Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765
```

```
Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
785                 790                 795                 800

Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
                805                 810                 815

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
            820                 825                 830

Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly
        835                 840                 845

Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr
    850                 855                 860

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys
865                 870                 875                 880

Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
                885                 890                 895

Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly
            900                 905                 910

Thr Met Val Thr Val Ser Ser
        915
```

<210> 131
<211> 891
<212> PRT
<213> Artificial Sequence

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

<400> 131
```
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
```

```
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220
```

```
Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
```

```
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655
```

```
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720

Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
                805                 810                 815

Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845

Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
```

865 870 875 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
885 890

<210> 132
<211> 895
<212> PRT
<213> Artificial Sequence

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

<400> 132
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
85 90 95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
100 105 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
115 120 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
130 135 140

```
Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160


Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175


Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190


Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205


Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220


Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240


Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255


Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270


Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285


Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300


Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320


Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335


Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350


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

```
Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430

Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575
```

```
Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800
```

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
805 810 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
820 825 830

Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
835 840 845

Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
850 855 860

Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865 870 875 880

Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
885 890 895

<210> 133
<211> 891
<212> PRT
<213> Artificial Sequence

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

<400> 133
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1 5 10 15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu

```
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285
```

```
Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser
                325                 330                 335

Arg Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu
            340                 345                 350

Lys Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp
        355                 360                 365

Ile Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu
    370                 375                 380

Leu His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr
385                 390                 395                 400

Thr Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr
                405                 410                 415

Leu Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu
            420                 425                 430

Phe Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile
        435                 440                 445

Ile Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser
    450                 455                 460

Leu Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu
465                 470                 475                 480

Ala Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala
                485                 490                 495

Phe Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser
```

```
            500                 505                 510

Ser Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly
        515                 520                 525

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

Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys
545                 550                 555                 560

Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
                565                 570                 575

Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser
            580                 585                 590

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu
        595                 600                 605

Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr
    610                 615                 620

Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val
625                 630                 635                 640

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                645                 650                 655

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
            660                 665                 670

Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro
        675                 680                 685

Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly
    690                 695                 700

Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys
705                 710                 715                 720
```

```
Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg
                725                 730                 735

Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly
            740                 745                 750

Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg
        755                 760                 765

Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val
    770                 775                 780

Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser
785                 790                 795                 800

Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser
                805                 810                 815

Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser
            820                 825                 830

Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn
        835                 840                 845

Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp
    850                 855                 860

Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr
865                 870                 875                 880

Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890
```

<210> 134
<211> 895
<212> PRT
<213> Artificial Sequence

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

<400> 134
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

```
Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
305                 310                 315                 320

Ser Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys
                325                 330                 335

Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln
            340                 345                 350

Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile
        355                 360                 365

Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys
    370                 375                 380

Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu
385                 390                 395                 400

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

Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met
            420                 425                 430
```

```
Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro
        435                 440                 445

Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu
    450                 455                 460

Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser
465                 470                 475                 480

Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile
                485                 490                 495

Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met
            500                 505                 510

Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser
        515                 520                 525

Phe Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu
    530                 535                 540

Val Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
545                 550                 555                 560

Thr Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys
                565                 570                 575

Gly Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu
            580                 585                 590

Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
        595                 600                 605

Lys Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr
    610                 615                 620

Ala Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln
625                 630                 635                 640
```

```
Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
                645                 650                 655

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val
        675                 680                 685

Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg
    690                 695                 700

Ser Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly
705                 710                 715                 720

Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly
                725                 730                 735

Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu
            740                 745                 750

Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln
        755                 760                 765

Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr
    770                 775                 780

Lys Val Thr Val Leu Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu
785                 790                 795                 800

Phe Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val
                805                 810                 815

Cys Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys
            820                 825                 830

Ala Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser
        835                 840                 845

Lys Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr
    850                 855                 860
```

```
Pro Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His
865                 870                 875                 880


Glu Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                885                 890                 895


<210> 135
<211> 594
<212> PRT
<213> Artificial Sequence

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

<400> 135
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1               5                   10                  15


Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            20                  25                  30


Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        35                  40                  45


Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    50                  55                  60


His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65                  70                  75                  80


Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                85                  90                  95


Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            100                 105                 110


Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
        115                 120                 125


Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
```

```
    130                 135                 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145                 150                 155                 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350
```

```
Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
    370                 375                 380

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
465                 470                 475                 480

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
                485                 490                 495

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
            500                 505                 510

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
        515                 520                 525

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
    530                 535                 540

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
545                 550                 555                 560

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
```

565 570 575

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
580 585 590

Ser Ser

<210> 136
<211> 598
<212> PRT
<213> Artificial Sequence

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

<400> 136
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
115 120 125

```
Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
    130                 135                 140

Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
        195                 200                 205

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350
```

```
Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
                485                 490                 495

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
            500                 505                 510

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
        515                 520                 525

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
    530                 535                 540

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
545                 550                 555                 560
```

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
565 570 575

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
580 585 590

Met Val Thr Val Ser Ser
595

<210> 137
<211> 594
<212> PRT
<213> Artificial Sequence

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

<400> 137
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1 5 10 15

Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
20 25 30

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
35 40 45

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
50 55 60

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65 70 75 80

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
85 90 95

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
100 105 110

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
115 120 125

```
Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    130                 135                 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145                 150                 155                 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
```

```
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
    370                 375                 380

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln
465                 470                 475                 480

Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser
                485                 490                 495

Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly
            500                 505                 510

Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
        515                 520                 525

Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys
    530                 535                 540

Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
545                 550                 555                 560
```

Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys
565 570 575

Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val
580 585 590

Ser Ser

<210> 138
<211> 598
<212> PRT
<213> Artificial Sequence

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

<400> 138
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
115 120 125

```
Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
    130                 135                 140

Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
        195                 200                 205

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335
```

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
465                 470                 475                 480

Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
                485                 490                 495

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
            500                 505                 510

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
        515                 520                 525

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
    530                 535                 540

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
545                 550                 555                 560
```

```
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
                565                 570                 575


Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
            580                 585                 590


Met Val Thr Val Ser Ser
        595


<210> 139
<211> 570
<212> PRT
<213> Artificial Sequence

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

<400> 139
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1               5                   10                  15


Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
            20                  25                  30


Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
        35                  40                  45


Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
    50                  55                  60


His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65                  70                  75                  80


Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
                85                  90                  95


Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
            100                 105                 110


Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
```

```
        115                 120                 125

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
    130                 135                 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145                 150                 155                 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
                165                 170                 175

Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335
```

```
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser
    370                 375                 380

Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
385                 390                 395                 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
                405                 410                 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
            420                 425                 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
        435                 440                 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
    450                 455                 460

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

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
                485                 490                 495

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
            500                 505                 510

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
        515                 520                 525

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
    530                 535                 540

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
```

545 550 555 560

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
565 570

<210> 140
<211> 574
<212> PRT
<213> Artificial Sequence

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

<400> 140
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1 5 10 15

His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
20 25 30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
35 40 45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
50 55 60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65 70 75 80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
85 90 95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
100 105 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
115 120 125

Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
130 135 140

```
Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
        195                 200                 205

Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365
```

```
Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

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

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
                485                 490                 495

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
            500                 505                 510

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
        515                 520                 525

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
    530                 535                 540

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
545                 550                 555                 560

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                565                 570
```

<210> 141
<211> 570
<212> PRT
<213> Artificial Sequence

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

<400> 141
Arg Val Ile Pro Val Ser Gly Pro Ala Arg Cys Leu Ser Gln Ser Arg
1 5 10 15

Asn Leu Leu Lys Thr Thr Asp Asp Met Val Lys Thr Ala Arg Glu Lys
20 25 30

Leu Lys His Tyr Ser Cys Thr Ala Glu Asp Ile Asp His Glu Asp Ile
35 40 45

Thr Arg Asp Gln Thr Ser Thr Leu Lys Thr Cys Leu Pro Leu Glu Leu
50 55 60

His Lys Asn Glu Ser Cys Leu Ala Thr Arg Glu Thr Ser Ser Thr Thr
65 70 75 80

Arg Gly Ser Cys Leu Pro Pro Gln Lys Thr Ser Leu Met Met Thr Leu
85 90 95

Cys Leu Gly Ser Ile Tyr Glu Asp Leu Lys Met Tyr Gln Thr Glu Phe
100 105 110

Gln Ala Ile Asn Ala Ala Leu Gln Asn His Asn His Gln Gln Ile Ile
115 120 125

Leu Asp Lys Gly Met Leu Val Ala Ile Asp Glu Leu Met Gln Ser Leu
130 135 140

Asn His Asn Gly Glu Thr Leu Arg Gln Lys Pro Pro Val Gly Glu Ala
145 150 155 160

Asp Pro Tyr Arg Val Lys Met Lys Leu Cys Ile Leu Leu His Ala Phe
165 170 175

```
Ser Thr Arg Val Val Thr Ile Asn Arg Val Met Gly Tyr Leu Ser Ser
            180                 185                 190

Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser
        195                 200                 205

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
    210                 215                 220

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
225                 230                 235                 240

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
                245                 250                 255

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
            260                 265                 270

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
        275                 280                 285

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
    290                 295                 300

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
305                 310                 315                 320

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                325                 330                 335

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            340                 345                 350

Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly
        355                 360                 365

Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp
    370                 375                 380

Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu
```

385 390 395 400

Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
405 410 415

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
420 425 430

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr
435 440 445

Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu
450 455 460

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

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
485 490 495

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
500 505 510

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
515 520 525

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
530 535 540

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
545 550 555 560

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
565 570

<210> 142
<211> 574
<212> PRT
<213> Artificial Sequence

<220>
<221> source

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

<400> 142

```
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1               5                  10                  15


His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
            20                  25                  30


Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
        35                  40                  45


His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
    50                  55                  60


Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65                  70                  75                  80


Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
                85                  90                  95


Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
            100                 105                 110


Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
        115                 120                 125


Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
    130                 135                 140


Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160


Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175


Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190


Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe
        195                 200                 205
```

```
Pro Pro Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
    210                 215                 220

Gln Pro Gly Asn Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr
225                 230                 235                 240

Phe Ser Lys Phe Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
                245                 250                 255

Leu Glu Trp Val Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr
            260                 265                 270

Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
        275                 280                 285

Thr Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala
    290                 295                 300

Val Tyr Tyr Cys Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly
305                 310                 315                 320

Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
                325                 330                 335

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
        355                 360                 365

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
    370                 375                 380

Asn Ile Gly Asp Glu Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
385                 390                 395                 400

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
                405                 410                 415
```

```
Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
            420                 425                 430

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
        435                 440                 445

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
    450                 455                 460

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

Pro Pro Ser Ser Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys
                485                 490                 495

Leu Ile Ser Asp Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala
            500                 505                 510

Asp Ser Ser Pro Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys
        515                 520                 525

Gln Ser Asn Asn Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro
    530                 535                 540

Glu Gln Trp Lys Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu
545                 550                 555                 560

Gly Ser Thr Val Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
                565                 570
```

<210> 143
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 143

```
Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro Cys Leu
1               5                   10                  15
```

```
His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu Gln Lys
            20                  25                  30

Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu Ile Asp
        35                  40                  45

His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala Cys Leu
    50                  55                  60

Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg Glu Thr
65                  70                  75                  80

Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr Ser Phe
                85                  90                  95

Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys Met Tyr
            100                 105                 110

Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp Pro Lys
        115                 120                 125

Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp Glu Leu
    130                 135                 140

Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys Ser Ser
145                 150                 155                 160

Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys Ile Leu
                165                 170                 175

Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val Met Ser
            180                 185                 190

Tyr Leu Asn Ala Ser His His His His His His
        195                 200
```

<210> 144
<211> 141
<212> PRT
<213> Artificial Sequence

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

<400> 144
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Ala Gly Gly
1 5 10 15

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

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

Val Ala Arg Ile Thr Glu Ser Ala Arg Asn Thr Arg Tyr Ala Asp Ser
50 55 60

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

Tyr Leu Gln Met Asn Asn Leu Glu Leu Glu Asp Ala Ala Val Tyr Tyr
85 90 95

Cys Ala Ala Asp Pro Gln Thr Val Val Val Gly Thr Pro Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Gln Val Thr Val Ser Ser Ala Ala Ala Tyr Pro Tyr
115 120 125

Asp Val Pro Asp Tyr Gly Ser His His His His His His
130 135 140

<210> 145
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 145
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln

```
1               5                   10                  15

Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
            20                  25                  30

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

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

```
His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 146
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 146
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Ser Asn
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


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

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


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 147
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 147
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
```

```
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

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

Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245

<210> 148
<211> 247
<212> PRT
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<213> Artificial Sequence

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

<400> 148
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

```
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 149
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 149
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
```

```
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 150
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 150
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15
```

```
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Gln
            20                  25                  30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Glu Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240
```

Ser His His His His His His
245

<210> 151
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 151
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Gln
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Ser Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met

```
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 152
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 152
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60
```

```
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


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


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


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245
```

<210> 153
<211> 247
<212> PRT
<213> Artificial Sequence

<220>

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

<400> 153
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln

195 200 205

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 154
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 154
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


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


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


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 155
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 155
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu Asn
            20                  25                  30
```

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
```

245

<210> 156
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 156
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asp
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

```
His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 157
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 157
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Glu
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80
```

```
Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 158
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 158
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 159
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 159

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

Thr Val Asp Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125
```

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 160
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 160

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

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

```
Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 161
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 161
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Asp Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 162
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 162
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Glu Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

```
His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


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


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


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 163
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 163
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
```

```
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Asp Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 164
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 164
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Glu Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 165
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 165
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
```

```
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

Asp Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245

<210> 166
<211> 247
<212> PRT
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<213> Artificial Sequence

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

<400> 166
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Glu Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Glu Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

```
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 167
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 167
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
            20                  25                  30


Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
```

```
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 168
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 168
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15
```

```
Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240
```

Ser His His His His His His
245

<210> 169
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 169
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Glu Tyr Gly Met

145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 170
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 170
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

```
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 171
<211> 247
<212> PRT
<213> Artificial Sequence

<220>

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

<400> 171
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Glu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln

195 200 205

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 172
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 172
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

```
Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


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


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


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Asp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 173
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 173
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30
```

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Asp Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
```

245

<210> 174
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 174
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

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

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

```
His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Asp Gly Ser Asn Glu Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


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


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


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 175
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 175
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


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


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80
```

```
Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Glu Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 176
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 176
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1   5   10   15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20   25   30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50   55   60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65   70   75   80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85   90   95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100   105   110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115   120   125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165   170   175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180   185   190

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

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

His Gly Ser Glu Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 177
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 177

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

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

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125
```

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Glu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Glu Gly
            180                 185                 190

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

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

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 178
<211> 247
<212> PRT
<213> Artificial Sequence

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

<400> 178

```
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30

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

```
Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

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

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

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Glu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Glu Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser Glu Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
```

<210> 179
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 179
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

```
Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 180
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 180
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95
```

```
His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110


Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125


Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140


Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 181
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 181
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
```

```
1               5                   10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Glu
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220
```

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 182
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 182
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Asn
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

```
Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160


His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175


Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
            180                 185                 190


Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 183
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 183
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
            20                  25                  30


Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
```

```
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245

<210> 184
<211> 247
<212> PRT
```

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 184
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
180 185 190

```
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205


Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220


His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240


Ser His His His His His His
                245


<210> 185
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 185
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15


Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
            20                  25                  30


Asp Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45


Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60


Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80


Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95


His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
```

```
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245


<210> 186
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 186
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                   10                  15
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Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu Asn
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240
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Ser His His His His His His
245

<210> 187
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 187
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Glu Glu
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
85 90 95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
115 120 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
130 135 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met

145 150 155 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
165 170 175

Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
180 185 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
195 200 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
210 215 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser His His His His His His
245

<210> 188
<211> 247
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 188
Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Glu
20 25 30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

```
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
        115                 120                 125

Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu
    130                 135                 140

Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met
145                 150                 155                 160

His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe
                165                 170                 175

Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly
            180                 185                 190

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
        195                 200                 205

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr
    210                 215                 220

His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser
225                 230                 235                 240

Ser His His His His His His
                245
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<210> 189
<211> 218
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 189
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Phe Ile Arg Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
100 105 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
115 120 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
130 135 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145 150 155 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
165 170 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
180 185 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys

195 200 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys
210 215

<210> 190
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 190
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
100 105 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
115 120 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
130 135 140

```
Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145                 150                 155                 160


Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
                165                 170                 175


Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190


Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205


Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215


<210> 191
<211> 218
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 191
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
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Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
            100                 105                 110


Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
        115                 120                 125


Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
    130                 135                 140


Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145                 150                 155                 160


Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
                165                 170                 175


Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
            180                 185                 190


Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
        195                 200                 205


Val Asp Lys Arg Val Glu Pro Lys Ser Cys
    210                 215


<210> 192
<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 192
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

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
        115                 120                 125

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
    130                 135                 140

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
145                 150                 155                 160

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
                165                 170                 175

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
            180                 185                 190

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
        195                 200                 205

Lys Thr Val Ala Pro Thr Glu Cys Ser
    210                 215
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<210> 193
<211> 217
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 193

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Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1               5                  10                  15

Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Asp Glu
            20                  25                  30

Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
        35                  40                  45

Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
    50                  55                  60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65                  70                  75                  80

Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr
                85                  90                  95

His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly
            100                 105                 110

Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser Glu
        115                 120                 125

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
    130                 135                 140

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro Val
145                 150                 155                 160

Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn Lys
                165                 170                 175

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
            180                 185                 190

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
        195                 200                 205
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Lys Thr Val Ala Pro Thr Glu Cys Ser
210 215

<210> 194
<211> 224
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 194
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr
100 105 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
115 120 125

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
130 135 140

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
145 150 155 160

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
165 170 175

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
180 185 190

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
195 200 205

Val Asp Lys Arg Val Glu Pro Lys Ser Cys His His His His His His
210 215 220

<210> 195
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="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>
<221> source
<223> /note="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>

<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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
20 25 30

<210> 207
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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>
<221> source
<223> /note="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> 8

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 221
Gly Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 222
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 222
Leu Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 223
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 223
Ser Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 224
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 224

Gln Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 225
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 225
Lys Pro Leu Gly Leu Lys Ala Gln
1 5

<210> 226
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 328
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1 5

<210> 329
<211> 8

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<220>
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<400> 329
Ala Leu Phe Ala Ser Ser Pro Pro
1 5

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peptide"

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<220>
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peptide"

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1 5

<210> 332
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peptide"

<400> 332

Ala Leu Phe Gly Ser Ser Pro Pro
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<210> 333
<211> 8
<212> PRT
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<220>
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<210> 334
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<220>
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peptide"

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1 5

<210> 338
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 338
Ala Leu Phe Lys Ala Ser Pro Pro
1 5

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<220>
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peptide"

<400> 339
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1 5

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<220>
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peptide"

<400> 340
Ala Leu Phe Lys Gly Ser Pro Pro
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<210> 341
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

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<210> 342
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<223> /note="Description of Artificial Sequence: Synthetic
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<400> 342
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1 5

<210> 343
<211> 8
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<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic

peptide"

<400> 343
Ala Leu Phe Lys Glu Ser Pro Pro
1 5

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<212> PRT
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Ala Leu Phe Lys Pro Ser Pro Pro
1 5

<210> 346
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<213> Artificial Sequence

<220>
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<210> 347
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<212> PRT
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<220>
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peptide"

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<210> 348
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<210> 349
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic
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<400> 349
Ala Leu Phe Lys Ser Lys Pro Pro
1 5

<210> 350
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<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 350

Ala Leu Phe Lys Ser Ala Pro Pro
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<213> Artificial Sequence

<220>
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<400> 351
Ala Leu Phe Lys Ser Gln Pro Pro
1   5

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<220>
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      peptide"

<400> 352
Ala Leu Phe Lys Ser Pro Pro Pro
1   5

<210> 353
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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Ala Leu Phe Lys Ser Glu Pro Pro
1   5

<210> 354
<211> 8
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<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 354
Ala Leu Phe Lys Ser Gly Pro Pro
1 5

<210> 355
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<220>
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 355
Ala Leu Phe Lys Ser Ser Phe Pro
1 5

<210> 356
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<213> Artificial Sequence

<220>
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peptide"

<400> 356
Ala Leu Phe Lys Ser Ser Leu Pro
1 5

<210> 357
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<212> PRT
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peptide"

<400> 357
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1 5

<210> 358
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<213> Artificial Sequence

<220>
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peptide"

<400> 358
Ala Leu Phe Lys Ser Ser Ser Pro
1 5

<210> 359
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
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<400> 359
Ala Leu Phe Lys Ser Ser Val Pro
1 5

<210> 360
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<220>
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peptide"

<400> 360
Ala Leu Phe Lys Ser Ser His Pro
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<210> 361
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<220>
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peptide"

<400> 361
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1 5

<210> 362
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 362
Ala Leu Phe Lys Ser Ser Asn Pro
1 5

<210> 363
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<220>
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Ala Leu Phe Lys Ser Ser Lys Pro
1 5

<210> 364
<211> 8
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

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Ala Leu Phe Lys Ser Ser Glu Pro
1 5

<210> 365
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<220>
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<400> 365
Ala Leu Phe Lys Ser Ser Pro Phe
1 5

<210> 366
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peptide"

<400> 366
Ala Leu Phe Lys Ser Ser Pro His
1 5

<210> 367
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<220>
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<223> /note="Description of Artificial Sequence: Synthetic
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<400> 367
Ala Leu Phe Lys Ser Ser Pro Gly
1 5

<210> 368
<211> 8
<212> PRT
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<220>
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<400> 368

Ala Leu Phe Lys Ser Ser Pro Ala
1   5

<210> 369
<211> 8
<212> PRT
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<220>
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<223> /note="Description of Artificial Sequence: Synthetic
      peptide"

<400> 369
Ala Leu Phe Lys Ser Ser Pro Ser
1   5

<210> 370
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      peptide"

<400> 370
Ala Leu Phe Lys Ser Ser Pro Val
1   5

<210> 371
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic
      peptide"

<400> 371
Ala Leu Phe Lys Ser Ser Pro Gln
1   5

<210> 372
<211> 8
<212> PRT
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<220>
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 372
Ala Leu Phe Lys Ser Ser Pro Lys
1 5

<210> 373
<211> 8
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<213> Artificial Sequence

<220>
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peptide"

<400> 373
Ala Leu Phe Lys Ser Ser Pro Leu
1 5

<210> 374
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 374
Ala Leu Phe Lys Ser Ser Pro Asp
1 5

<210> 375
<211> 8
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
MMP7 cleavage domain sequence"

<400> 375
Lys Arg Ala Leu Gly Leu Pro Gly
1 5

<210> 376
<211> 40
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP7 cleavage domain sequence"

<400> 376
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> 377
<211> 5
<212> PRT
<213> Unknown

<220>
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MMP9 cleavage domain sequence"

<220>
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<222> (3)..(3)
<223> /replace="Thr"

<220>
<221> VARIANT
<222> (4)..(4)
<223> /replace="Ile"

<220>
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<222> (5)..(5)
<223> /replace="Thr"

<220>
<221> SITE
<222> (1)..(5)
<223> /note="Variant residues given in the sequence have no

preference with respect to those in the annotations
for variant positions"

<400> 377
Pro Arg Ser Leu Ser
1 5

<210> 378
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP9 cleavage domain sequence"

<400> 378
Leu Glu Ala Thr Ala
1 5

<210> 379
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP11 cleavage domain sequence"

<400> 379
Gly Gly Ala Ala Asn Leu Val Arg Gly Gly
1 5 10

<210> 380
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP14 cleavage domain sequence"

<400> 380
Ser Gly Arg Ile Gly Phe Leu Arg Thr Ala
1 5 10

<210> 381

<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 381
Pro Leu Gly Leu Ala Gly
1 5

<210> 382
<211> 6
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Any amino acid

<400> 382
Pro Leu Gly Leu Ala Xaa
1 5

<210> 383
<211> 6
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<220>
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<222> (4)..(4)
<223> Cys(me)

<400> 383
Pro Leu Gly Xaa Ala Gly
1 5

<210> 384
<211> 8
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 384
Glu Ser Pro Ala Tyr Tyr Thr Ala
1 5

<210> 385
<211> 6
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 385
Arg Leu Gln Leu Lys Leu
1 5

<210> 386
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
MMP cleavage domain sequence"

<400> 386
Arg Leu Gln Leu Lys Ala Cys
1 5

<210> 387
<211> 7
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
MMP2, MMP9, MMP14 cleavage domain sequence"

<220>
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<222> (3)..(3)
<223> Cit

<220>
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<222> (5)..(5)
<223> Hof

<400> 387
Glu Pro Xaa Gly Xaa Tyr Leu
1 5

<210> 388
<211> 5
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
Urokinase plasminogen activator (uPA) cleavage domain
sequence"

<400> 388
Ser Gly Arg Ser Ala
1 5

<210> 389
<211> 4
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
Urokinase plasminogen activator (uPA) cleavage domain
sequence"

<400> 389
Asp Ala Phe Lys
1

<210> 390
<211> 5
<212> PRT

<213> Unknown

<220>
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<223> /note="Description of Unknown:
Urokinase plasminogen activator (uPA) cleavage domain
sequence"

<400> 390
Gly Gly Gly Arg Arg
1 5

<210> 391
<211> 4
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
Lysosomal Enzyme cleavage domain sequence"

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Gly Phe Leu Gly
1

<210> 392
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Lysosomal Enzyme cleavage domain sequence"

<400> 392
Ala Leu Ala Leu
1

<210> 393
<211> 2
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Lysosomal Enzyme cleavage domain sequence"

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Phe Lys
1

<210> 394
<211> 3
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Cathepsin B cleavage domain sequence"

<400> 394
Asn Leu Leu
1

<210> 395
<211> 5
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<213> Unknown

<220>
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<223> /note="Description of Unknown:
Cathepsin D cleavage domain sequence"

<220>
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<222> (3)..(3)
<223> Cys(Et)

<400> 395
Pro Ile Xaa Phe Phe
1 5

<210> 396
<211> 8
<212> PRT
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<220>
<221> source
<223> /note="Description of Unknown:
Cathepsin K cleavage domain sequence"

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Gly Gly Pro Arg Gly Leu Pro Gly
1 5

<210> 397
<211> 6
<212> PRT
<213> Unknown

<220>
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<223> /note="Description of Unknown:
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His Ser Ser Lys Leu Gln
1   5

<210> 398
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      Prostate Specific Antigen cleavage domain sequence"

<400> 398
His Ser Ser Lys Leu Gln Leu
1   5

<210> 399
<211> 9
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
      Prostate Specific Antigen cleavage domain sequence"

<400> 399
His Ser Ser Lys Leu Gln Glu Asp Ala
1   5

<210> 400
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:

Herpes Simplex Virus Protease cleavage domain
sequence"

<400> 400
Leu Val Leu Ala Ser Ser Ser Phe Gly Tyr
1 5 10

<210> 401
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
HIV Protease cleavage domain sequence"

<400> 401
Gly Val Ser Gln Asn Tyr Pro Ile Val Gly
1 5 10

<210> 402
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
CMV Protease cleavage domain sequence"

<400> 402
Gly Val Val Gln Ala Ser Cys Arg Leu Ala
1 5 10

<210> 403
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Thrombin cleavage domain sequence"

<220>
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<222> (2)..(2)
<223> 2-carboxy piperdine

<400> 403
Phe Xaa Arg Ser
1

<210> 404
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Thrombin cleavage domain sequence"

<400> 404
Asp Pro Arg Ser Phe Leu
1 5

<210> 405
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Thrombin cleavage domain sequence"

<400> 405
Pro Pro Arg Ser Phe Leu
1 5

<210> 406
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Caspase-3 cleavage domain sequence"

<400> 406
Asp Glu Val Asp
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<210> 407
<211> 5
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Caspase-3 cleavage domain sequence"

<400> 407
Asp Glu Val Asp Pro
1 5

<210> 408
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Caspase-3 cleavage domain sequence"

<400> 408
Lys Gly Ser Gly Asp Val Glu Gly
1 5

<210> 409
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Interleukin 1-beta converting enzyme cleavage domain
sequence"

<400> 409
Gly Trp Glu His Asp Gly
1 5

<210> 410
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Enterokinase cleavage domain sequence"

<400> 410
Glu Asp Asp Asp Asp Lys Ala

1 5

<210> 411
<211> 9
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
FAP cleavage domain sequence"

<400> 411
Lys Gln Glu Gln Asn Pro Gly Ser Thr
1 5

<210> 412
<211> 6
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Kallikrein 2 cleavage domain sequence"

<400> 412
Gly Lys Ala Phe Arg Arg
1 5

<210> 413
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Plasmin cleavage domain sequence"

<400> 413
Asp Ala Phe Lys
1

<210> 414
<211> 4
<212> PRT
<213> Unknown

<220>

<221> source
<223> /note="Description of Unknown:
Plasmin cleavage domain sequence"

<400> 414
Asp Val Leu Lys
1

<210> 415
<211> 4
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
Plasmin cleavage domain sequence"

<400> 415
Asp Ala Phe Lys
1

<210> 416
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
TOP cleavage domain sequence"

<400> 416
Ala Leu Leu Leu Ala Leu Leu
1 5

<210> 417
<211> 7
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 417
Gly Pro Leu Gly Val Arg Gly
1 5

<210> 418
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 418
Ile Pro Val Ser Leu Arg Ser Gly
1 5

<210> 419
<211> 8
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 419
Val Pro Leu Ser Leu Tyr Ser Gly
1 5

<210> 420
<211> 10
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown:
protease-cleavable sequence"

<400> 420
Ser Gly Glu Ser Pro Ala Tyr Tyr Thr Ala
1 5 10

<210> 421
<211> 328
<212> PRT
<213> Homo sapiens

<400> 421
Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1 5 10 15

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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> 422
<211> 638
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 422
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

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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 Met Trp Glu Leu Glu Lys Asp Val Tyr Val Val Glu Val Asp
    130                 135                 140

Trp Thr Pro Asp Ala Pro Gly Glu Thr Val Asn Leu Thr Cys Asp Thr
145                 150                 155                 160

Pro Glu Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln Arg His Gly Val
                165                 170                 175

Ile Gly Ser Gly Lys Thr Leu Thr Ile Thr Val Lys Glu Phe Leu Asp
            180                 185                 190

Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Thr Leu Ser His Ser
        195                 200                 205

His Leu Leu Leu His Lys Lys Glu Asn Gly Ile Trp Ser Thr Glu Ile
    210                 215                 220

Leu Lys Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys Glu Ala Pro Asn
225                 230                 235                 240

Tyr Ser Gly Arg Phe Thr Cys Ser Trp Leu Val Gln Arg Asn Met Asp
                245                 250                 255

Leu Lys Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro Asp Ser Arg Ala
            260                 265                 270

Val Thr Cys Gly Met Ala Ser Leu Ser Ala Glu Lys Val Thr Leu Asp
        275                 280                 285
```

```
Gln Arg Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln Glu Asp Val Thr
    290                 295                 300

Cys Pro Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu Ala Leu Glu Ala
305                 310                 315                 320

Arg Gln Gln Asn Lys Tyr Glu Asn Tyr Ser Thr Ser Phe Phe Ile Arg
                325                 330                 335

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Met Lys Pro Leu
            340                 345                 350

Lys Asn Ser Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Ser Trp Ser
        355                 360                 365

Thr Pro His Ser Tyr Phe Ser Leu Lys Phe Phe Val Arg Ile Gln Arg
    370                 375                 380

Lys Lys Glu Lys Met Lys Glu Thr Glu Glu Gly Cys Asn Gln Lys Gly
385                 390                 395                 400

Ala Phe Leu Val Glu Lys Thr Ser Thr Glu Val Gln Cys Lys Gly Gly
                405                 410                 415

Asn Val Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn Ser Ser Cys Ser
            420                 425                 430

Lys Trp Ala Cys Val Pro Cys Arg Val Arg Ser Gly Gly Gly Gly Ser
        435                 440                 445

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Val
    450                 455                 460

Pro Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln Gln Leu Ser Arg
465                 470                 475                 480

Asn Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro Ala Gly His Met
                485                 490                 495
```

Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys Asn Asn Val Pro
500 505 510

Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly Leu Lys Asp Asn
515 520 525

Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu Ala Phe Tyr Lys
530 535 540

His Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro Ala Leu Leu Pro
545 550 555 560

Asp Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu Gly Leu Ser Gln
565 570 575

Leu Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln Gln Met Pro Ser
580 585 590

Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu Arg Ser Lys Ile
595 600 605

Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala Arg Val Phe Ala
610 615 620

His Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro Thr Ala
625 630 635

<210> 423
<211> 181
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 423
Val Pro Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln Gln Leu Ser
1 5 10 15

Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro Ala Gly His
20 25 30

Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys Asn Asn Val
35 40 45

Pro Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly Leu Lys Asp
50 55 60

Asn Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu Ala Phe Tyr
65 70 75 80

Lys His Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro Ala Leu Leu
85 90 95

Pro Asp Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu Gly Leu Ser
100 105 110

Gln Leu Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln Gln Met Pro
115 120 125

Ser Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu Arg Ser Lys
130 135 140

Ile Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala Arg Val Phe
145 150 155 160

Ala His Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro Thr Ala His
165 170 175

His His His His His
180

<210> 424
<211> 176
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 424
Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys Gln Gln
1 5 10 15

```
Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His Pro Leu Val
            20                  25                  30

Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr Asn Asp
        35                  40                  45

Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly Leu Arg
    50                  55                  60

Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu Ile Phe
65                  70                  75                  80

Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro Ser Leu
                85                  90                  95

Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu Leu Gly Leu
            100                 105                 110

Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln Gln Ile
        115                 120                 125

Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu Arg Phe
    130                 135                 140

Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala Arg Val
145                 150                 155                 160

Phe Ala His Gly Ala Ala Thr Leu Ser Pro His His His His His His
                165                 170                 175


<210> 425
<211> 305
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 425
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
```

```
1               5                   10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
            20                  25                  30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65                  70                  75                  80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Gly Gly Gly Ser Gly Gly Gly Pro
        115                 120                 125

Gly Ser Val Pro Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln Gln
    130                 135                 140

Leu Ser Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro Ala
145                 150                 155                 160

Gly His Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys Asn
                165                 170                 175

Asn Val Pro Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly Leu
            180                 185                 190

Lys Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu Ala
        195                 200                 205

Phe Tyr Lys His Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro Ala
    210                 215                 220
```

Leu Leu Pro Asp Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu Gly
225 230 235 240

Leu Ser Gln Leu Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln Gln
245 250 255

Met Pro Ser Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu Arg
260 265 270

Ser Lys Ile Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala Arg
275 280 285

Val Phe Ala His Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro Thr
290 295 300

Ala
305

<210> 426
<211> 300
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 426
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

```
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
            100                 105                 110

Val Ser Ser Ser Gly Gly Pro Gly Gly Gly Gly Ser Gly Gly Gly Pro
        115                 120                 125

Gly Ser Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys
    130                 135                 140

Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His Pro
145                 150                 155                 160

Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr
                165                 170                 175

Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly
            180                 185                 190

Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu
        195                 200                 205

Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro
    210                 215                 220

Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu Leu
225                 230                 235                 240

Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln
                245                 250                 255

Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu
            260                 265                 270

Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala
        275                 280                 285
```

Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro
290 295 300

<210> 427
<211> 591
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 427
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Val Pro Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln Gln
130 135 140

Leu Ser Arg Asn Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro Ala
145 150 155 160

```
Gly His Met Asn Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys Asn
                165                 170                 175

Asn Val Pro Arg Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly Leu
            180                 185                 190

Lys Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu Ala
        195                 200                 205

Phe Tyr Lys His Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro Ala
    210                 215                 220

Leu Leu Pro Asp Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu Gly
225                 230                 235                 240

Leu Ser Gln Leu Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln Gln
                245                 250                 255

Met Pro Ser Leu Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu Arg
            260                 265                 270

Ser Lys Ile Leu Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala Arg
        275                 280                 285

Val Phe Ala His Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro Thr
    290                 295                 300

Ala Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser
305                 310                 315                 320

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                325                 330                 335

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ser
            340                 345                 350

Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg Val
        355                 360                 365

Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr Val
```

```
    370                 375                 380

Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr
385                 390                 395                 400

Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly Ser
                405                 410                 415

Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala Glu
            420                 425                 430

Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His Pro
        435                 440                 445

Ala Leu Leu Phe Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly
    450                 455                 460

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu
465                 470                 475                 480

Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu
                485                 490                 495

Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp
            500                 505                 510

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Arg
        515                 520                 525

Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly Arg Phe
    530                 535                 540

Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn
545                 550                 555                 560

Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His Gly
                565                 570                 575

Ser His Asp Asn Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
            580                 585                 590
```

<210> 428
<211> 586
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 428
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Asn
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Phe
20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Ser Gly Ser Gly Arg Asp Thr Leu Tyr Ala Glu Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Thr Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Ile Gly Gly Ser Leu Ser Val Ser Ser Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro
115 120 125

Gly Ser Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys
130 135 140

Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His Pro
145 150 155 160

Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr
165 170 175

```
Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly
            180                 185                 190

Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu
        195                 200                 205

Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro
    210                 215                 220

Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu Leu
225                 230                 235                 240

Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln
                245                 250                 255

Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu
            260                 265                 270

Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala
        275                 280                 285

Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro Ser Gly Gly Pro
    290                 295                 300

Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser
305                 310                 315                 320

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
                325                 330                 335

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro
            340                 345                 350

Pro Ser Val Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser
        355                 360                 365

Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln
    370                 375                 380
```

```
Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg
385                 390                 395                 400

Pro Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser
                405                 410                 415

Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr
            420                 425                 430

Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly
        435                 440                 445

Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly
    450                 455                 460

Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly
465                 470                 475                 480

Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser
                485                 490                 495

Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro
            500                 505                 510

Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn
        515                 520                 525

Lys Tyr Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
    530                 535                 540

Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
545                 550                 555                 560

Asp Thr Ala Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp
                565                 570                 575

Gly Gln Gly Thr Met Val Thr Val Ser Ser
            580                 585
```

<210> 429
<211> 653

<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 429
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 Ile Trp Glu Leu Lys Lys Asp Val
145 150 155 160

Tyr Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val
165 170 175

Val Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu

```
            180                 185                 190

Asp Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln
        195                 200                 205

Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
    210                 215                 220

Glu Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly
225                 230                 235                 240

Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys
                245                 250                 255

Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys
            260                 265                 270

Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser
        275                 280                 285

Ser Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr
    290                 295                 300

Leu Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser
305                 310                 315                 320

Val Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu
                325                 330                 335

Pro Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn
            340                 345                 350

Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro
        355                 360                 365

Lys Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val
    370                 375                 380

Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser
385                 390                 395                 400
```

```
Leu Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys
                405                 410                 415

Asp Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys
            420                 425                 430

Asn Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser
        435                 440                 445

Trp Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Val Pro
465                 470                 475                 480

Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln Gln Leu Ser Arg Asn
                485                 490                 495

Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro Ala Gly His Met Asn
            500                 505                 510

Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys Asn Asn Val Pro Arg
        515                 520                 525

Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly Leu Lys Asp Asn Ser
    530                 535                 540

Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu Ala Phe Tyr Lys His
545                 550                 555                 560

Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro Ala Leu Leu Pro Asp
                565                 570                 575

Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu Gly Leu Ser Gln Leu
            580                 585                 590

Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln Gln Met Pro Ser Leu
        595                 600                 605

Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu Arg Ser Lys Ile Leu
```

610 615 620

Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala Arg Val Phe Ala His
625 630 635 640

Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro Thr Ala
645 650

<210> 430
<211> 648
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 430
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 Ile Trp Glu Leu Lys Lys Asp Val
145                 150                 155                 160

Tyr Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val
                165                 170                 175

Val Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu
            180                 185                 190

Asp Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln
        195                 200                 205

Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
    210                 215                 220

Glu Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly
225                 230                 235                 240

Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys
                245                 250                 255

Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys
            260                 265                 270

Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser
        275                 280                 285

Ser Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr
    290                 295                 300

Leu Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser
305                 310                 315                 320

Val Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu
                325                 330                 335

Pro Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn
            340                 345                 350
```

```
Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro
        355                 360                 365

Lys Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val
    370                 375                 380

Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser
385                 390                 395                 400

Leu Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys
                405                 410                 415

Asp Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys
            420                 425                 430

Asn Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser
        435                 440                 445

Trp Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg Ala
465                 470                 475                 480

Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys Gln Gln Leu Ser
                485                 490                 495

Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His Pro Leu Val Gly His
            500                 505                 510

Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr Asn Asp Val Pro
        515                 520                 525

His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly Leu Arg Asp Asn
    530                 535                 540

Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu Ile Phe Tyr Glu
545                 550                 555                 560
```

```
Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro Ser Leu Leu Pro
                565                 570                 575


Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu Leu Gly Leu Ser Gln
            580                 585                 590


Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln Gln Ile Pro Ser
        595                 600                 605


Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu Arg Phe Lys Ile
    610                 615                 620


Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala Arg Val Phe Ala
625                 630                 635                 640


His Gly Ala Ala Thr Leu Ser Pro
                645


<210> 431
<211> 939
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 431
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 Ala Leu Phe
    130                 135                 140

Lys Ser Ser Phe Pro Pro Gly Ser Ile Trp Glu Leu Lys Lys Asp Val
145                 150                 155                 160

Tyr Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val
                165                 170                 175

Val Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu
            180                 185                 190

Asp Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln
        195                 200                 205

Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
    210                 215                 220

Glu Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly
225                 230                 235                 240

Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys
                245                 250                 255

Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys
            260                 265                 270

Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser
        275                 280                 285

Ser Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr
```

```
    290                 295                 300

Leu Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser
305                 310                 315                 320

Val Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu
                325                 330                 335

Pro Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn
            340                 345                 350

Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro
        355                 360                 365

Lys Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val
    370                 375                 380

Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser
385                 390                 395                 400

Leu Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys
                405                 410                 415

Asp Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys
            420                 425                 430

Asn Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser
        435                 440                 445

Trp Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Val Pro
465                 470                 475                 480

Arg Ser Ser Ser Pro Asp Trp Ala Gln Cys Gln Gln Leu Ser Arg Asn
                485                 490                 495

Leu Cys Met Leu Ala Trp Asn Ala His Ala Pro Ala Gly His Met Asn
            500                 505                 510
```

```
Leu Leu Arg Glu Glu Glu Asp Glu Glu Thr Lys Asn Asn Val Pro Arg
        515                 520                 525

Ile Gln Cys Glu Asp Gly Cys Asp Pro Gln Gly Leu Lys Asp Asn Ser
    530                 535                 540

Gln Phe Cys Leu Gln Arg Ile Arg Gln Gly Leu Ala Phe Tyr Lys His
545                 550                 555                 560

Leu Leu Asp Ser Asp Ile Phe Lys Gly Glu Pro Ala Leu Leu Pro Asp
                565                 570                 575

Ser Pro Met Glu Gln Leu His Thr Ser Leu Leu Gly Leu Ser Gln Leu
            580                 585                 590

Leu Gln Pro Glu Asp His Pro Arg Glu Thr Gln Gln Met Pro Ser Leu
        595                 600                 605

Ser Ser Ser Gln Gln Trp Gln Arg Pro Leu Leu Arg Ser Lys Ile Leu
    610                 615                 620

Arg Ser Leu Gln Ala Phe Leu Ala Ile Ala Ala Arg Val Phe Ala His
625                 630                 635                 640

Gly Ala Ala Thr Leu Thr Glu Pro Leu Val Pro Thr Ala Ser Gly Gly
                645                 650                 655

Pro Ala Leu Phe Lys Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln
    690                 695                 700

Pro Pro Ser Val Ser Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys
705                 710                 715                 720

Ser Gly Ser Arg Ser Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln
```

```
                725                 730                 735

Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln
            740                 745                 750

Arg Pro Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr
        755                 760                 765

Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp
    770                 775                 780

Tyr Tyr Cys Gln Ser Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe
785                 790                 795                 800

Gly Thr Gly Thr Lys Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815

Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly
            820                 825                 830

Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala
        835                 840                 845

Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala
    850                 855                 860

Pro Gly Lys Gly Leu Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser
865                 870                 875                 880

Asn Lys Tyr Tyr Ala Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg
                885                 890                 895

Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala
            900                 905                 910

Glu Asp Thr Ala Val Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn
        915                 920                 925

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
    930                 935
```

<210> 432
<211> 934
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 432
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 Ala Leu Phe
130 135 140

Lys Ser Ser Phe Pro Pro Gly Ser Ile Trp Glu Leu Lys Lys Asp Val
145 150 155 160

Tyr Val Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val
165 170 175

```
Val Leu Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu
            180                 185                 190

Asp Gln Ser Ser Glu Val Leu Gly Ser Gly Lys Thr Leu Thr Ile Gln
        195                 200                 205

Val Lys Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly
    210                 215                 220

Glu Val Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly
225                 230                 235                 240

Ile Trp Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys
                245                 250                 255

Thr Phe Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys
            260                 265                 270

Trp Trp Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser
        275                 280                 285

Ser Arg Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr
    290                 295                 300

Leu Ser Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser
305                 310                 315                 320

Val Glu Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu
                325                 330                 335

Pro Ile Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn
            340                 345                 350

Tyr Thr Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro
        355                 360                 365

Lys Asn Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val
    370                 375                 380
```

```
Ser Trp Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser
385                 390                 395                 400

Leu Thr Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys
                405                 410                 415

Asp Arg Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys
            420                 425                 430

Asn Ala Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser
        435                 440                 445

Trp Ser Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Gly Ser Gly
    450                 455                 460

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Arg Ala
465                 470                 475                 480

Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln Cys Gln Gln Leu Ser
                485                 490                 495

Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His Pro Leu Val Gly His
            500                 505                 510

Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr Thr Asn Asp Val Pro
        515                 520                 525

His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln Gly Leu Arg Asp Asn
    530                 535                 540

Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly Leu Ile Phe Tyr Glu
545                 550                 555                 560

Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu Pro Ser Leu Leu Pro
                565                 570                 575

Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu Leu Gly Leu Ser Gln
            580                 585                 590

Leu Leu Gln Pro Glu Gly His His Trp Glu Thr Gln Gln Ile Pro Ser
        595                 600                 605
```

```
Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu Leu Arg Phe Lys Ile
    610                 615                 620

Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala Ala Arg Val Phe Ala
625                 630                 635                 640

His Gly Ala Ala Thr Leu Ser Pro Ser Gly Gly Pro Ala Leu Phe Lys
                645                 650                 655

Ser Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
            660                 665                 670

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        675                 680                 685

Gly Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser
    690                 695                 700

Gly Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser
705                 710                 715                 720

Asn Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr
                725                 730                 735

Ala Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val
            740                 745                 750

Pro Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala
        755                 760                 765

Ile Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser
    770                 775                 780

Tyr Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys
785                 790                 795                 800

Val Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
                805                 810                 815
```

```
Gly Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
            820                 825                 830

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        835                 840                 845

Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    850                 855                 860

Glu Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala
865                 870                 875                 880

Glu Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
                885                 890                 895

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
            900                 905                 910

Tyr Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr
        915                 920                 925

Met Val Thr Val Ser Ser
    930


<210> 433
<211> 313
<212> PRT
<213> Mus sp.

<400> 433
Met Trp Glu Leu Glu Lys Asp Val Tyr Val Val Glu Val Asp Trp Thr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Thr Val Asn Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln Arg His Gly Val Ile Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Thr Val Lys Glu Phe Leu Asp Ala Gly
    50                  55                  60
```

```
Gln Tyr Thr Cys His Lys Gly Gly Glu Thr Leu Ser His Ser His Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asn Gly Ile Trp Ser Thr Glu Ile Leu Lys
                85                  90                  95

Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys Glu Ala Pro Asn Tyr Ser
            100                 105                 110

Gly Arg Phe Thr Cys Ser Trp Leu Val Gln Arg Asn Met Asp Leu Lys
        115                 120                 125

Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro Asp Ser Arg Ala Val Thr
    130                 135                 140

Cys Gly Met Ala Ser Leu Ser Ala Glu Lys Val Thr Leu Asp Gln Arg
145                 150                 155                 160

Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln Glu Asp Val Thr Cys Pro
                165                 170                 175

Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu Ala Leu Glu Ala Arg Gln
            180                 185                 190

Gln Asn Lys Tyr Glu Asn Tyr Ser Thr Ser Phe Phe Ile Arg Asp Ile
        195                 200                 205

Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Met Lys Pro Leu Lys Asn
    210                 215                 220

Ser Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Ser Trp Ser Thr Pro
225                 230                 235                 240

His Ser Tyr Phe Ser Leu Lys Phe Phe Val Arg Ile Gln Arg Lys Lys
                245                 250                 255

Glu Lys Met Lys Glu Thr Glu Glu Gly Cys Asn Gln Lys Gly Ala Phe
            260                 265                 270

Leu Val Glu Lys Thr Ser Thr Glu Val Gln Cys Lys Gly Gly Asn Val
        275                 280                 285
```

```
Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn Ser Ser Cys Ser Lys Trp
    290                 295                 300


Ala Cys Val Pro Cys Arg Val Arg Ser
305                 310


<210> 434
<211> 306
<212> PRT
<213> Homo sapiens

<400> 434
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80


Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95


Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110


Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125


Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140


Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160
```

```
Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175


Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190


Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205


Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220


Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240


Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255


Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270


Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285


Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300


Cys Ser
305


<210> 435
<211> 306
<212> PRT
<213> Homo sapiens

<400> 435
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30
```

```
Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240
```

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
245 250 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
260 265 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
275 280 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
290 295 300

Cys Ser
305

<210> 436
<211> 313
<212> PRT
<213> Mus sp.

<400> 436
Met Trp Glu Leu Glu Lys Asp Val Tyr Val Val Glu Val Asp Trp Thr
1 5 10 15

Pro Asp Ala Pro Gly Glu Thr Val Asn Leu Thr Cys Asp Thr Pro Glu
20 25 30

Glu Asp Asp Ile Thr Trp Thr Ser Asp Gln Arg His Gly Val Ile Gly
35 40 45

Ser Gly Lys Thr Leu Thr Ile Thr Val Lys Glu Phe Leu Asp Ala Gly
50 55 60

Gln Tyr Thr Cys His Lys Gly Gly Glu Thr Leu Ser His Ser His Leu
65 70 75 80

Leu Leu His Lys Lys Glu Asn Gly Ile Trp Ser Thr Glu Ile Leu Lys
85 90 95

Asn Phe Lys Asn Lys Thr Phe Leu Lys Cys Glu Ala Pro Asn Tyr Ser
100 105 110

```
Gly Arg Phe Thr Cys Ser Trp Leu Val Gln Arg Asn Met Asp Leu Lys
        115                 120                 125

Phe Asn Ile Lys Ser Ser Ser Ser Ser Pro Asp Ser Arg Ala Val Thr
    130                 135                 140

Cys Gly Met Ala Ser Leu Ser Ala Glu Lys Val Thr Leu Asp Gln Arg
145                 150                 155                 160

Asp Tyr Glu Lys Tyr Ser Val Ser Cys Gln Glu Asp Val Thr Cys Pro
                165                 170                 175

Thr Ala Glu Glu Thr Leu Pro Ile Glu Leu Ala Leu Glu Ala Arg Gln
            180                 185                 190

Gln Asn Lys Tyr Glu Asn Tyr Ser Thr Ser Phe Phe Ile Arg Asp Ile
        195                 200                 205

Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Met Lys Pro Leu Lys Asn
    210                 215                 220

Ser Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Ser Trp Ser Thr Pro
225                 230                 235                 240

His Ser Tyr Phe Ser Leu Lys Phe Phe Val Arg Ile Gln Arg Lys Lys
                245                 250                 255

Glu Lys Met Lys Glu Thr Glu Glu Gly Cys Asn Gln Lys Gly Ala Phe
            260                 265                 270

Leu Val Glu Lys Thr Ser Thr Glu Val Gln Cys Lys Gly Gly Asn Val
        275                 280                 285

Cys Val Gln Ala Gln Asp Arg Tyr Tyr Asn Ser Ser Cys Ser Lys Trp
    290                 295                 300

Ala Cys Val Pro Cys Arg Val Arg Ser
305                 310
```

<210> 437
<211> 306

<212> PRT
<213> Homo sapiens

<400> 437
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1   5   10   15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20   25   30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35   40   45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50   55   60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65   70   75   80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85   90   95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100   105   110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115   120   125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130   135   140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145   150   155   160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165   170   175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180   185   190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195   200   205

```
Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser
305
```

<210> 438
<211> 306
<212> PRT
<213> Homo sapiens

<400> 438

```
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15

Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30

Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80
```

```
Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285
```

```
Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300


Cys Ser
305
```

<210> 439
<211> 306
<212> PRT
<213> Homo sapiens

<400> 439

```
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30


Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45


Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60


Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80


Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95


Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110


Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125


Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140


Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160
```

```
Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175


Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190


Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205


Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220


Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240


Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255


Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270


Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285


Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300


Cys Ser
305


<210> 440
<211> 306
<212> PRT
<213> Homo sapiens

<400> 440
Ile Trp Glu Leu Lys Lys Asp Val Tyr Val Val Glu Leu Asp Trp Tyr
1               5                   10                  15


Pro Asp Ala Pro Gly Glu Met Val Val Leu Thr Cys Asp Thr Pro Glu
            20                  25                  30
```

```
Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln Ser Ser Glu Val Leu Gly
        35                  40                  45

Ser Gly Lys Thr Leu Thr Ile Gln Val Lys Glu Phe Gly Asp Ala Gly
    50                  55                  60

Gln Tyr Thr Cys His Lys Gly Gly Glu Val Leu Ser His Ser Leu Leu
65                  70                  75                  80

Leu Leu His Lys Lys Glu Asp Gly Ile Trp Ser Thr Asp Ile Leu Lys
                85                  90                  95

Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp Leu Thr Thr Ile Ser Thr
        115                 120                 125

Asp Leu Thr Phe Ser Val Lys Ser Ser Arg Gly Ser Ser Asp Pro Gln
    130                 135                 140

Gly Val Thr Cys Gly Ala Ala Thr Leu Ser Ala Glu Arg Val Arg Gly
145                 150                 155                 160

Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu Cys Gln Glu Asp Ser Ala
                165                 170                 175

Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile Glu Val Met Val Asp Ala
            180                 185                 190

Val His Lys Leu Lys Tyr Glu Asn Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255
```

```
Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270


Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285


Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300


Cys Ser
305


<210> 441
<211> 613
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 441
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130                 135                 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145                 150                 155                 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165                 170                 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys
225                 230                 235                 240

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320
```

```
Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly
    370                 375                 380

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                485                 490                 495

Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        515                 520                 525

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
```

```
    530                 535                 540

Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545                 550                 555                 560

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                565                 570                 575

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            580                 585                 590

Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
        595                 600                 605

Val Thr Val Ser Ser
    610


<210> 442
<211> 613
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 442
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
    130                 135                 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145                 150                 155                 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
                165                 170                 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
            180                 185                 190

Cys Leu Pro Leu Glu Leu Thr Lys Gln Glu Ser Cys Leu Asn Ser Arg
        195                 200                 205

Glu Thr Ser Phe Ile Thr Gln Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys
225                 230                 235                 240

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300
```

```
Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Gln Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly
    370                 375                 380

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415

Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                485                 490                 495

Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510
```

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
515 520 525

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
530 535 540

Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545 550 555 560

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
565 570 575

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
580 585 590

Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
595 600 605

Val Thr Val Ser Ser
610

<210> 443
<211> 306
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 443
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 Gln Lys Thr Phe Leu Arg Cys Glu Ala Lys
            100                 105                 110

Gln 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 Gln 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 Gln Ala Ser Ile Ser Val Arg Ala
```

275 280 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
290 295 300

Cys Ser
305

<210> 444
<211> 306
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 444
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

Gln 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 Gln Tyr Thr Ser Ser Phe Phe Ile Arg
        195                 200                 205

Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn Leu Gln Leu Lys Pro Leu
    210                 215                 220

Lys Asn Ser Arg Gln Val Glu Val Ser Trp Glu Tyr Pro Asp Thr Trp
225                 230                 235                 240

Ser Thr Pro His Ser Tyr Phe Ser Leu Thr Phe Cys Val Gln Val Gln
                245                 250                 255

Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg Val Phe Thr Asp Lys Thr
            260                 265                 270

Ser Ala Thr Val Ile Cys Arg Lys Asn Ala Ser Ile Ser Val Arg Ala
        275                 280                 285

Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser Glu Trp Ala Ser Val Pro
    290                 295                 300

Cys Ser
305
```

<210> 445
<211> 613
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 445
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 Arg Asn Leu Pro Val Ala Thr Pro Asp Pro Gly Met Phe Pro
130 135 140

Cys Leu His His Ser Gln Asn Leu Leu Arg Ala Val Ser Asn Met Leu
145 150 155 160

Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr Pro Cys Thr Ser Glu Glu
165 170 175

Ile Asp His Glu Asp Ile Thr Lys Asp Lys Thr Ser Thr Val Glu Ala
180 185 190

Cys Leu Pro Leu Glu Leu Thr Lys Gln Glu Ser Cys Leu Asn Ser Arg

```
        195                 200                 205

Glu Thr Ser Phe Ile Thr Gln Gly Ser Cys Leu Ala Ser Arg Lys Thr
    210                 215                 220

Ser Phe Met Met Ala Leu Cys Leu Ser Ser Ile Tyr Glu Asp Leu Lys
225                 230                 235                 240

Met Tyr Gln Val Glu Phe Lys Thr Met Asn Ala Lys Leu Leu Met Asp
                245                 250                 255

Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn Met Leu Ala Val Ile Asp
            260                 265                 270

Glu Leu Met Gln Ala Leu Asn Phe Asn Ser Glu Thr Val Pro Gln Lys
        275                 280                 285

Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys Thr Lys Ile Lys Leu Cys
    290                 295                 300

Ile Leu Leu His Ala Phe Arg Ile Arg Ala Val Thr Ile Asp Arg Val
305                 310                 315                 320

Met Ser Tyr Leu Asn Ala Ser Ser Gly Gly Pro Ala Leu Phe Lys Ser
                325                 330                 335

Ser Phe Pro Pro Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
            340                 345                 350

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        355                 360                 365

Gly Gly Gly Ser Gln Ser Val Leu Thr Gln Pro Pro Ser Val Ser Gly
    370                 375                 380

Ala Pro Gly Gln Arg Val Thr Ile Ser Cys Ser Gly Ser Arg Ser Asn
385                 390                 395                 400

Ile Gly Ser Asn Thr Val Lys Trp Tyr Gln Gln Leu Pro Gly Thr Ala
                405                 410                 415
```

```
Pro Lys Leu Leu Ile Tyr Tyr Asn Asp Gln Arg Pro Ser Gly Val Pro
            420                 425                 430

Asp Arg Phe Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile
        435                 440                 445

Thr Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr
    450                 455                 460

Asp Arg Tyr Thr His Pro Ala Leu Leu Phe Gly Thr Gly Thr Lys Val
465                 470                 475                 480

Thr Val Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
                485                 490                 495

Gly Ser Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro
            500                 505                 510

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
        515                 520                 525

Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu
    530                 535                 540

Trp Val Ala Phe Ile Arg Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Glu
545                 550                 555                 560

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr
                565                 570                 575

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
            580                 585                 590

Tyr Cys Lys Thr His Gly Ser His Asp Asn Trp Gly Gln Gly Thr Met
        595                 600                 605

Val Thr Val Ser Ser
    610
```

<210> 446

<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
6xHis tag"

<400> 446
His His His His His His
1 5

<210> 447
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 447
Pro Ala Gly Leu Tyr Ala Gln
1 5

<210> 448
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 448
Leu Phe Lys Ser Ser Phe Pro
1 5