SEQUENCE LISTING

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<120> FGFR Extracellular Domain Acidic Region Muteins

<130> 08940.0071

<150> US 60/086,121
<151> 2008-08-04

<160> 173

<170> PatentIn version 3.5

<210> 1
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<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 1

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Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
```

```
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp
            340                 345
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<210> 2
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<213> Artificial Sequence

<220>
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<400> 2

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Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45
```

```
Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Leu Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320
```

```
Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp
            340                 345
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<210> 3
<211> 348
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<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 3

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Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
```

195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Val Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
325 330 335

Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp
340 345

<210> 4
<211> 582
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 4

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

```
Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp Gly Ser Glu Pro
            340                 345                 350
```

```
Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
        355                 360                 365

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
    370                 375                 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
385                 390                 395                 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
                405                 410                 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
            420                 425                 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
        435                 440                 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
    450                 455                 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
465                 470                 475                 480

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
            500                 505                 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
        515                 520                 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
    530                 535                 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
545                 550                 555                 560

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
                565                 570                 575

Ser Leu Ser Pro Gly Lys
            580
```

<210> 5
<211> 580
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 5

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Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
```

260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
325 330 335

Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp Glu Pro Lys Ser
340 345 350

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

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
370 375 380

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
385 390 395 400

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
405 410 415

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
420 425 430

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
435 440 445

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
450 455 460

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
465 470 475 480

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

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
500 505 510

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
515 520 525

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr

530 535 540

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
545 550 555 560

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
565 570 575

Ser Pro Gly Lys
580

<210> 6
<211> 343
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 6

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

```
Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Ala Ala Ala Pro Glu
            340
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<210> 7
<211> 337
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 7

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Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
```

50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr

325 330 335

Trp

<210> 8
<211> 333
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 8

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

```
Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu
                325                 330
```

<210> 9
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 9

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
```

100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 10
<211> 330
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 10

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270
```

```
Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu
                325                 330
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<210> 11
<211> 575
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 11

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
```

```
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Ala Ala Ala Pro Glu Glu Pro Lys Ser Ser Asp Lys Thr His
            340                 345                 350

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
        355                 360                 365

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
    370                 375                 380

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
385                 390                 395                 400

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
                405                 410                 415

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
            420                 425                 430

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
```

435 440 445

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
450 455 460

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

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

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
500 505 510

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
515 520 525

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
530 535 540

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
545 550 555 560

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570 575

<210> 12
<211> 570
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 12

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

```
Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys
            340                 345                 350

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
        355                 360                 365
```

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

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
385                 390                 395                 400

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
                405                 410                 415

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
            420                 425                 430

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
        435                 440                 445

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
    450                 455                 460

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
465                 470                 475                 480

Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
                485                 490                 495

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
            500                 505                 510

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

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
    530                 535                 540

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
545                 550                 555                 560

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
                565                 570
```

<210> 13
<211> 565
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 13

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
```

20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala

290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Glu Pro Lys
325 330 335

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
340 345 350

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
355 360 365

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
370 375 380

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
385 390 395 400

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
405 410 415

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
420 425 430

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
435 440 445

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
450 455 460

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

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
485 490 495

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
500 505 510

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
515 520 525

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
530 535 540

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
545 550 555 560

Leu Ser Pro Gly Lys

<210> 14
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 14

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

```
Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
                325                 330                 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
                485                 490                 495
```

```
Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
            500                 505                 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
        515                 520                 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
    530                 535                 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545                 550                 555                 560

Pro Gly Lys
```

<210> 15
<211> 562
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 15

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
```

145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Glu Pro Lys Ser Ser Asp
325 330 335

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
340 345 350

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
355 360 365

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
370 375 380

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
385 390 395 400

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
405 410 415

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys

420 425 430

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
435 440 445

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
450 455 460

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

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
485 490 495

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
500 505 510

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
515 520 525

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
530 535 540

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

Gly Lys

<210> 16
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 16

Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg
1 5 10 15

Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln
20 25

<210> 17
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 17

Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg

1 5 10 15

Asp Leu Ser Asn Arg His Ser Tyr Pro Gln Gln
20 25

<210> 18
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 18

Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg
1 5 10 15

Asp Pro Ser Asn Arg His Ser Tyr Pro Gln
20 25

<210> 19
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 19

Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg
1 5 10 15

Asp Leu Ser Asn Arg His Ser Tyr Pro Gln
20 25

<210> 20
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 20

Asp Asp Glu Asp Pro Lys Ser His Arg
1 5

<210> 21
<211> 353
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 21

Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln Pro Trp Gly Ala Pro

1 5 10 15

Val Glu Val Glu Ser Phe Leu Val His Pro Gly Asp Leu Leu Gln Leu
20 25 30

Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile Asn Trp Leu Arg Asp
35 40 45

Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg Ile Thr Gly Glu Glu
50 55 60

Val Glu Val Gln Asp Ser Val Pro Ala Asp Ser Gly Leu Tyr Ala Cys
65 70 75 80

Val Thr Ser Ser Pro Ser Gly Ser Asp Thr Thr Tyr Phe Ser Val Asn
85 90 95

Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp
100 105 110

Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val
115 120 125

Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys Leu His Ala
130 135 140

Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys Pro Ser Ser Gly Thr
145 150 155 160

Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly Lys Glu Phe Lys Pro
165 170 175

Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr Ala Thr Trp Ser Ile
180 185 190

Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr Cys Ile
195 200 205

Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr Gln Leu Asp Val
210 215 220

Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala
225 230 235 240

Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val
245 250 255

Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val
260 265 270

Asn Gly Ser Lys Ile Gly Pro Asp Asn Leu Pro Tyr Val Gln Ile Leu

275 280 285

Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu Met Glu Val Leu His
290 295 300

Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala
305 310 315 320

Gly Asn Ser Ile Gly Leu Ser His His Ser Ala Trp Leu Thr Val Leu
325 330 335

Glu Ala Leu Glu Glu Arg Pro Ala Val Met Thr Ser Pro Leu Tyr Leu
340 345 350

Glu

<210> 22
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 22

Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser
1 5 10 15

Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val
20 25 30

<210> 23
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 23

Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser
1 5 10 15

Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn
20 25

<210> 24
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 24

Glu Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu
1 5 10

<210> 25
<211> 355
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 25

Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln Pro Trp Gly Ala Pro
1 5 10 15

Val Glu Val Glu Ser Phe Leu Val His Pro Gly Asp Leu Leu Gln Leu
20 25 30

Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile Asn Trp Leu Arg Asp
35 40 45

Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg Ile Thr Gly Glu Glu
50 55 60

Val Glu Val Gln Asp Ser Val Pro Ala Asp Ser Gly Leu Tyr Ala Cys
65 70 75 80

Val Thr Ser Ser Pro Ser Gly Ser Asp Thr Thr Tyr Phe Ser Val Asn
85 90 95

Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp
100 105 110

Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Arg Met
115 120 125

Pro Val Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys Leu
130 135 140

His Ala Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys Pro Ser Ser
145 150 155 160

Gly Thr Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly Lys Glu Phe
165 170 175

Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr Ala Thr Trp
180 185 190

Ser Ile Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr
195 200 205

Cys Ile Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr Gln Leu

210 215 220

Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu
225 230 235 240

Pro Ala Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu Phe Met Cys
245 250 255

Lys Val Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu Lys His Ile
260 265 270

Glu Val Asn Gly Ser Lys Ile Gly Pro Asp Asn Leu Pro Tyr Val Gln
275 280 285

Ile Leu Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu Met Glu Val
290 295 300

Leu His Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu Tyr Thr Cys
305 310 315 320

Leu Ala Gly Asn Ser Ile Gly Leu Ser His His Ser Ala Trp Leu Thr
325 330 335

Val Leu Glu Ala Leu Glu Glu Arg Pro Ala Val Met Thr Ser Pro Leu
340 345 350

Tyr Leu Glu
355

<210> 26
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 26

Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser
1 5 10 15

Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Arg Met Pro Val
20 25 30

<210> 27
<211> 356
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 27

Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu

```
1               5                   10                  15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
            20                  25                  30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
        35                  40                  45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
    50                  55                  60

Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65                  70                  75                  80

Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
                85                  90                  95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Asp Asp
            100                 105                 110

Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
        115                 120                 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
    130                 135                 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145                 150                 155                 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
                165                 170                 175

Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
            180                 185                 190

Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
```

275 280 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
290 295 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305 310 315 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
325 330 335

Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
340 345 350

Asp Tyr Leu Glu
355

<210> 28
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 28

Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu
1 5 10 15

Asp Phe Val Ser Glu Asn Ser Asn Asn Lys Arg
20 25

<210> 29
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 29

Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu
1 5 10 15

Asp Phe Val Ser Glu Asn Ser Asn Asn Lys
20 25

<210> 30
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 30

```
Asp Asp Glu Asp Asp Thr Asp
1               5


<210>  31
<211>  353
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  31

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


Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
            20                  25                  30


Asp Ala Val Glu Leu Ser Cys Pro Pro Pro Gly Gly Gly Pro Met Gly
        35                  40                  45


Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
    50                  55                  60


Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65                  70                  75                  80


Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
                85                  90                  95


Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Gly Asp Asp
            100                 105                 110


Glu Asp Gly Glu Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
        115                 120                 125


Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
    130                 135                 140


Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160


Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
                165                 170                 175


His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
            180                 185                 190


Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
        195                 200                 205


Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
```

210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
260 265 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
275 280 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
290 295 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305 310 315 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
325 330 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val Tyr Ala
340 345 350

Gly

<210> 32
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 32

Asp Ala Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu
1 5 10 15

Asp Thr Gly Val Asp Thr Gly
20

<210> 33
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 33

Asp Ala Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu

1 5 10 15

Asp Thr Gly Val Asp Thr
20

<210> 34
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 34

Asp Asp Glu Asp Gly Glu
1 5

<210> 35
<211> 334
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 35

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
115 120 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
130 135 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro

145 150 155 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
165 170 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
195 200 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
260 265 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
275 280 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
290 295 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305 310 315 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 36
<211> 336
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 36

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

```
Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Arg Met Pro
        115                 120                 125

Val Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His
    130                 135                 140

Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly
145                 150                 155                 160

Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His
                165                 170                 175

Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser
            180                 185                 190

Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys
        195                 200                 205

Leu Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp
    210                 215                 220

Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro
225                 230                 235                 240

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

Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val
            260                 265                 270

Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val
        275                 280                 285

Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu
    290                 295                 300

Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305                 310                 315                 320
```

Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330 335

<210> 37
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 37

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala
100 105 110

Glu Asp Phe Val Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser

210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 38
<211> 327
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 38

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala
100 105 110

```
Glu Asp Thr Gly Val Asp Thr Gly Ala Pro Tyr Trp Thr His Pro Gln
        115                 120                 125

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

Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu
145                 150                 155                 160

Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg
                165                 170                 175

Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser
            180                 185                 190

Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile
        195                 200                 205

Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro
    210                 215                 220

Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser
225                 230                 235                 240

Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile
                245                 250                 255

Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp
            260                 265                 270

Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser
        275                 280                 285

Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly
    290                 295                 300

Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser
305                 310                 315                 320

Ala Trp Leu Thr Val Leu Pro
                325
```

<210> 39
<211> 333
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 39

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
```

```
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Gln Ala Pro
        115                 120                 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
    130                 135                 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145                 150                 155                 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
                165                 170                 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
            180                 185                 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
        195                 200                 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
    210                 215                 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225                 230                 235                 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
                245                 250                 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
            260                 265                 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
```

275 280 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
290 295 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305 310 315 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 40
<211> 335
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 40

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Arg Met Gln
115 120 125

Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala
130 135 140

Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn
145 150 155 160

Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly
165 170 175

```
Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu
            180                 185                 190

Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu
        195                 200                 205

Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val
    210                 215                 220

Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala
225                 230                 235                 240

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

Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile
            260                 265                 270

Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu
        275                 280                 285

Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg
    290                 295                 300

Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn
305                 310                 315                 320

Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330                 335


<210>  41
<211>  331
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  41

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
```

65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala
100 105 110

Glu Asp Phe Val Ser Glu Asn Ser Asn Asn Lys Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 42

<211> 327
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 42

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala
            100                 105                 110

Glu Asp Thr Gly Val Asp Thr Gln Ala Pro Tyr Trp Thr His Pro Gln
        115                 120                 125

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

Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu
145                 150                 155                 160

Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg
                165                 170                 175

Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser
            180                 185                 190

Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile
        195                 200                 205

Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro
    210                 215                 220

Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser
225                 230                 235                 240
```

```
Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile
                245                 250                 255

Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp
            260                 265                 270

Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser
        275                 280                 285

Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly
    290                 295                 300

Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser
305                 310                 315                 320

Ala Trp Leu Thr Val Leu Pro
                325
```

<210> 43
<211> 334
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 43

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Glu Asp Asp Asp Asp Asp Asp Asp
            100                 105                 110

Ser Ser Ser Glu Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
```

130 135 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro
145 150 155 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
165 170 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
195 200 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
260 265 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
275 280 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
290 295 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305 310 315 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 44
<211> 329
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 44

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

```
Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Thr Asp Asp
            100                 105                 110

Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His
        115                 120                 125

Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr
    130                 135                 140

Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg
145                 150                 155                 160

Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly
                165                 170                 175

Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val
            180                 185                 190

Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly
        195                 200                 205

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

Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val
225                 230                 235                 240

Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro
                245                 250                 255

His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly
            260                 265                 270

Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn
        275                 280                 285

Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp
    290                 295                 300
```

```
Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr
305                 310                 315                 320

Gln Ser Ala Trp Leu Thr Val Leu Pro
                325
```

<210> 45
<211> 328
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 45

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Gly Glu Asp Pro
            100                 105                 110

Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro
        115                 120                 125

Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val
    130                 135                 140

Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp
145                 150                 155                 160

Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile
                165                 170                 175

Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro
            180                 185                 190

Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser
```

195 200 205

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

Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly
225 230 235 240

Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His
245 250 255

Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala
260 265 270

Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser
275 280 285

Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala
290 295 300

Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln
305 310 315 320

Ser Ala Trp Leu Thr Val Leu Pro
325

<210> 46
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 46

Asp Asp Glu Asp Pro Lys Ser His Arg Asp
1 5 10

<210> 47
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 47

Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro
1 5 10

<210> 48
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 48

Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser
1 5 10

<210> 49
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 49

Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn
1 5 10

<210> 50
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 50

Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg
1 5 10

<210> 51
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 51

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp
1 5 10

<210> 52
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 52

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro
1 5 10

<210> 53
<211> 13
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 53

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser
1 5 10

<210> 54
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 54

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn
1 5 10

<210> 55
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 55

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg
1 5 10 15

<210> 56
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 56

Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu
1 5 10

<210> 57
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 57

Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu Lys Glu
1 5 10 15

<210> 58

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

<220>
<223> Synthetic sequence

<400> 58

Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu Lys Glu Thr
1 5 10 15

Asp

<210> 59
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 59

Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu
1 5 10

<210> 60
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 60

Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp
1 5 10

<210> 61
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 61

Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu
1 5 10 15

<210> 62
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 62

Asp Asp Glu Asp Gly Glu Asp
1 5

<210> 63
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 63

Asp Asp Glu Asp Gly Glu Asp Glu
1 5

<210> 64
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 64

Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu
1 5 10

<210> 65
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 65

Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu Asp
1 5 10

<210> 66
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 66

Met Trp Ser Trp Lys Cys Leu Leu Phe Trp Ala Val Leu Val Thr Ala
1 5 10 15

Thr Leu Cys Thr Ala
20

<210> 67
<211> 21
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 67

Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala
1 5 10 15

Thr Leu Ser Leu Ala
20

<210> 68
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 68

Met Gly Ala Pro Ala Cys Ala Leu Ala Leu Cys Val Ala Val Ala Ile
1 5 10 15

Val Ala Gly Ala Ser Ser
20

<210> 69
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 69

Met Arg Leu Leu Leu Ala Leu Leu Gly Ile Leu Leu Ser Val Pro Gly
1 5 10 15

Pro Pro Val Leu Ser
20

<210> 70
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 70

Leu Glu Ala Ser Glu Glu Val Glu
1 5

<210> 71
<211> 19
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 71

Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala Pro Glu Ala Arg
1 5 10 15

Tyr Thr Asp

<210> 72
<211> 232
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 72

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10 15

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

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

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
50 55 60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65 70 75 80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110

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

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
130 135 140

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
180 185 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
210 215 220

Ser Leu Ser Leu Ser Pro Gly Lys
225 230

<210> 73
<211> 228
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 73

Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val
1 5 10 15

Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
20 25 30

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
35 40 45

His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu
50 55 60

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

Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn
85 90 95

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro
100 105 110

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

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
130 135 140

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
145 150 155 160

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro

165 170 175

Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
180 185 190

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
195 200 205

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
210 215 220

Ser Pro Gly Lys
225

<210> 74
<211> 229
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 74

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe
1 5 10 15

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

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

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

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

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

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
130 135 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145 150 155 160

```
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
                165                 170                 175

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys
225
```

<210> 75
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 75

```
Met Arg Leu Leu Leu Ala Leu Leu Gly Ile Leu Leu Ser Val Pro Gly
1               5                   10                  15

Pro Pro Val Leu Ser
            20
```

<210> 76
<211> 346
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 76

```
Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser Leu Glu
1               5                   10                  15

Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val Arg Leu
            20                  25                  30

Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu Gly Ser
        35                  40                  45

Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg Leu Glu
    50                  55                  60

Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys Leu Ala
65                  70                  75                  80
```

```
Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr Gly Asp
                85                  90                  95

Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp
            100                 105                 110

Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His
        115                 120                 125

Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr
    130                 135                 140

Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg
145                 150                 155                 160

Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly
                165                 170                 175

Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val
            180                 185                 190

Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly
        195                 200                 205

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

Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val
225                 230                 235                 240

Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro
                245                 250                 255

His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly
            260                 265                 270

Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn
        275                 280                 285

Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp
    290                 295                 300

Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr
305                 310                 315                 320

Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr
                325                 330                 335

Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp
            340                 345
```

<210> 77
<211> 345
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 77

```
Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser Leu Glu Gln
1               5                  10                  15

Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val Arg Leu Cys
            20                  25                  30

Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu Gly Ser Arg
        35                  40                  45

Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg Leu Glu Ile
    50                  55                  60

Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys Leu Ala Arg
65                  70                  75                  80

Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr Gly Asp Ser
                85                  90                  95

Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro
            100                 105                 110

Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro
        115                 120                 125

Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val
    130                 135                 140

Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp
145                 150                 155                 160

Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile
                165                 170                 175

Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro
            180                 185                 190

Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser
        195                 200                 205

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

Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly
```

225 230 235 240

Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His
245 250 255

Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala
260 265 270

Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser
275 280 285

Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala
290 295 300

Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln
305 310 315 320

Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala
325 330 335

Ala Ala Pro Glu Ala Arg Tyr Thr Asp
340 345

<210> 78
<211> 343
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 78

Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser Leu Glu Gln Gln Glu
1 5 10 15

Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val Arg Leu Cys Cys Gly
20 25 30

Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu Gly Ser Arg Leu Ala
35 40 45

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

Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys Leu Ala Arg Gly Ser
65 70 75 80

Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr Gly Asp Ser Leu Thr
85 90 95

Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn
100 105 110

```
Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg
        115                 120                 125

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

Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys
145                 150                 155                 160

Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu
                165                 170                 175

Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp
            180                 185                 190

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

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

Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asp
225                 230                 235                 240

Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln
                245                 250                 255

Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly
            260                 265                 270

Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu
        275                 280                 285

Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu
    290                 295                 300

Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala
305                 310                 315                 320

Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala
                325                 330                 335

Pro Glu Ala Arg Tyr Thr Asp
            340
```

<210> 79
<211> 341
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 79

```
Glu Leu Glu Pro Cys Leu Ala Pro Ser Leu Glu Gln Gln Glu Gln Glu
1               5                  10                  15

Leu Thr Val Ala Leu Gly Gln Pro Val Arg Leu Cys Cys Gly Arg Ala
            20                  25                  30

Glu Arg Gly Gly His Trp Tyr Lys Glu Gly Ser Arg Leu Ala Pro Ala
        35                  40                  45

Gly Arg Val Arg Gly Trp Arg Gly Arg Leu Glu Ile Ala Ser Phe Leu
    50                  55                  60

Pro Glu Asp Ala Gly Arg Tyr Leu Cys Leu Ala Arg Gly Ser Met Ile
65                  70                  75                  80

Val Leu Gln Asn Leu Thr Leu Ile Thr Gly Asp Ser Leu Thr Ser Ser
                85                  90                  95

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg His
            100                 105                 110

Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu
        115                 120                 125

Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys
    130                 135                 140

Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly
145                 150                 155                 160

Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His
                165                 170                 175

Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly
            180                 185                 190

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

Tyr Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln
    210                 215                 220

Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asp Val Glu
225                 230                 235                 240

Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu
                245                 250                 255

Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro
```

260 265 270

Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu
275 280 285

Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr
290 295 300

Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu
305 310 315 320

Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala Pro Glu
325 330 335

Ala Arg Tyr Thr Asp
340

<210> 80
<211> 340
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 80

Leu Glu Pro Cys Leu Ala Pro Ser Leu Glu Gln Gln Glu Gln Glu Leu
1 5 10 15

Thr Val Ala Leu Gly Gln Pro Val Arg Leu Cys Cys Gly Arg Ala Glu
20 25 30

Arg Gly Gly His Trp Tyr Lys Glu Gly Ser Arg Leu Ala Pro Ala Gly
35 40 45

Arg Val Arg Gly Trp Arg Gly Arg Leu Glu Ile Ala Ser Phe Leu Pro
50 55 60

Glu Asp Ala Gly Arg Tyr Leu Cys Leu Ala Arg Gly Ser Met Ile Val
65 70 75 80

Leu Gln Asn Leu Thr Leu Ile Thr Gly Asp Ser Leu Thr Ser Ser Asn
85 90 95

Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg His Ser
100 105 110

Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys
115 120 125

Lys Leu His Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro
130 135 140

```
Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln
145                 150                 155                 160

Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln
                165                 170                 175

His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr
            180                 185                 190

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

Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala
    210                 215                 220

Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu
225                 230                 235                 240

Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys
                245                 250                 255

His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr
            260                 265                 270

Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val
        275                 280                 285

Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys
    290                 295                 300

Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr
305                 310                 315                 320

Val Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala Pro Glu Ala
                325                 330                 335

Arg Tyr Thr Asp
            340
```

<210> 81
<211> 323
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 81

```
Leu Glu Pro Cys Leu Ala Pro Ser Leu Glu Gln Gln Glu Gln Glu Leu
1               5                   10                  15

Thr Val Ala Leu Gly Gln Pro Val Arg Leu Cys Cys Gly Arg Ala Glu
```

20 25 30

Arg Gly Gly His Trp Tyr Lys Glu Gly Ser Arg Leu Ala Pro Ala Gly
35 40 45

Arg Val Arg Gly Trp Arg Gly Arg Leu Glu Ile Ala Ser Phe Leu Pro
50 55 60

Glu Asp Ala Gly Arg Tyr Leu Cys Leu Ala Arg Gly Ser Met Ile Val
65 70 75 80

Leu Gln Asn Leu Thr Leu Ile Thr Gly Asp Ser Leu Thr Ser Ser Asn
85 90 95

Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg His Ser
100 105 110

Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys
115 120 125

Lys Leu His Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro
130 135 140

Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln
145 150 155 160

Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln
165 170 175

His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr
180 185 190

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

Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala
210 215 220

Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu
225 230 235 240

Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys
245 250 255

His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr
260 265 270

Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val
275 280 285

Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys

290 295 300

Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr
305 310 315 320

Val Leu Pro

<210> 82
<211> 369
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 82

Met Arg Leu Leu Leu Ala Leu Leu Gly Ile Leu Leu Ser Val Pro Gly
1 5 10 15

Pro Pro Val Leu Ser Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro
20 25 30

Cys Leu Ala Pro Ser Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala
35 40 45

Leu Gly Gln Pro Val Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly
50 55 60

His Trp Tyr Lys Glu Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg
65 70 75 80

Gly Trp Arg Gly Arg Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala
85 90 95

Gly Arg Tyr Leu Cys Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn
100 105 110

Leu Thr Leu Ile Thr Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu
115 120 125

Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln
130 135 140

Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His
145 150 155 160

Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly
165 170 175

Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His
180 185 190

```
Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser
        195                 200                 205

Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys
    210                 215                 220

Leu Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp
225                 230                 235                 240

Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro
                245                 250                 255

Ala Asn Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys
            260                 265                 270

Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val
        275                 280                 285

Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val
    290                 295                 300

Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu
305                 310                 315                 320

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

Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
            340                 345                 350

Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr
        355                 360                 365

Asp
```

<210> 83
<211> 376
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 83

```
Met Trp Ser Trp Lys Cys Leu Leu Phe Trp Ala Val Leu Val Thr Ala
1               5                   10                  15

Thr Leu Cys Thr Ala Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln
            20                  25                  30

Pro Trp Gly Ala Pro Val Glu Val Glu Ser Phe Leu Val His Pro Gly
```

35 40 45

Asp Leu Leu Gln Leu Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile
50 55 60

Asn Trp Leu Arg Asp Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg
65 70 75 80

Ile Thr Gly Glu Glu Val Glu Val Gln Asp Ser Val Pro Ala Asp Ser
85 90 95

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

Tyr Phe Ser Val Asn Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp
115 120 125

Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr
130 135 140

Lys Pro Asn Arg Met Pro Val Ala Pro Tyr Trp Thr Ser Pro Glu Lys
145 150 155 160

Met Glu Lys Lys Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe
165 170 175

Lys Cys Pro Ser Ser Gly Thr Pro Asn Pro Thr Leu Arg Trp Leu Lys
180 185 190

Asn Gly Lys Glu Phe Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val
195 200 205

Arg Tyr Ala Thr Trp Ser Ile Ile Met Asp Ser Val Val Pro Ser Asp
210 215 220

Lys Gly Asn Tyr Thr Cys Ile Val Glu Asn Glu Tyr Gly Ser Ile Asn
225 230 235 240

His Thr Tyr Gln Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile
245 250 255

Leu Gln Ala Gly Leu Pro Ala Asn Lys Thr Val Ala Leu Gly Ser Asn
260 265 270

Val Glu Phe Met Cys Lys Val Tyr Ser Asp Pro Gln Pro His Ile Gln
275 280 285

Trp Leu Lys His Ile Glu Val Asn Gly Ser Lys Ile Gly Pro Asp Asn
290 295 300

Leu Pro Tyr Val Gln Ile Leu Lys Thr Ala Gly Val Asn Thr Thr Asp

305 310 315 320

Lys Glu Met Glu Val Leu His Leu Arg Asn Val Ser Phe Glu Asp Ala
325 330 335

Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser His His
340 345 350

Ser Ala Trp Leu Thr Val Leu Glu Ala Leu Glu Glu Arg Pro Ala Val
355 360 365

Met Thr Ser Pro Leu Tyr Leu Glu
370 375

<210> 84
<211> 377
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 84

Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala
1 5 10 15

Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr
20 25 30

Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu
35 40 45

Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu
50 55 60

Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly
65 70 75 80

Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly
85 90 95

Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr
100 105 110

Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile
115 120 125

Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val
130 135 140

Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu
145 150 155 160

```
Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys
                165                 170                 175

Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu
            180                 185                 190

Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys
        195                 200                 205

Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser
    210                 215                 220

Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile
225                 230                 235                 240

Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro
                245                 250                 255

Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly
            260                 265                 270

Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile
        275                 280                 285

Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp
    290                 295                 300

Gly Leu Pro Tyr Leu Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr
305                 310                 315                 320

Asp Lys Glu Ile Glu Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp
                325                 330                 335

Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe
            340                 345                 350

His Ser Ala Trp Leu Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu
        355                 360                 365

Ile Thr Ala Ser Pro Asp Tyr Leu Glu
    370                 375
```

<210> 85
<211> 375
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 85

```
Met Gly Ala Pro Ala Cys Ala Leu Ala Leu Cys Val Ala Val Ala Ile
```

1 5 10 15

Val Ala Gly Ala Ser Ser Glu Ser Leu Gly Thr Glu Gln Arg Val Val
20 25 30

Gly Arg Ala Ala Glu Val Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln
35 40 45

Leu Val Phe Gly Ser Gly Asp Ala Val Glu Leu Ser Cys Pro Pro Pro
50 55 60

Gly Gly Gly Pro Met Gly Pro Thr Val Trp Val Lys Asp Gly Thr Gly
65 70 75 80

Leu Val Pro Ser Glu Arg Val Leu Val Gly Pro Gln Arg Leu Gln Val
85 90 95

Leu Asn Ala Ser His Glu Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg
100 105 110

Leu Thr Gln Arg Val Leu Cys His Phe Ser Val Arg Val Thr Asp Ala
115 120 125

Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu Asp Thr
130 135 140

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

Lys Lys Leu Leu Ala Val Pro Ala Ala Asn Thr Val Arg Phe Arg Cys
165 170 175

Pro Ala Ala Gly Asn Pro Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly
180 185 190

Arg Glu Phe Arg Gly Glu His Arg Ile Gly Gly Ile Lys Leu Arg His
195 200 205

Gln Gln Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly
210 215 220

Asn Tyr Thr Cys Val Val Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr
225 230 235 240

Tyr Thr Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln
245 250 255

Ala Gly Leu Pro Ala Asn Gln Thr Ala Val Leu Gly Ser Asp Val Glu
260 265 270

Phe His Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu

275 280 285

Lys His Val Glu Val Asn Gly Ser Lys Val Gly Pro Asp Gly Thr Pro
290 295 300

Tyr Val Thr Val Leu Lys Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu
305 310 315 320

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

Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Phe Ser His His Ser Ala
340 345 350

Trp Leu Val Val Leu Pro Ala Glu Glu Glu Leu Val Glu Ala Asp Glu
355 360 365

Ala Gly Ser Val Tyr Ala Gly
370 375

<210> 86
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 86

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
115 120 125

```
Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
        195                 200                 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
                245                 250                 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
            260                 265                 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
        275                 280                 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
    290                 295                 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305                 310                 315                 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro
                325                 330                 335

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
            340                 345                 350

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        355                 360                 365

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
    370                 375                 380

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
385                 390                 395                 400
```

```
Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
                405                 410                 415

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
            420                 425                 430

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
        435                 440                 445

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
    450                 455                 460

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
                485                 490                 495

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
            500                 505                 510

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
        515                 520                 525

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
    530                 535                 540

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
545                 550                 555                 560

Ser Leu Ser Pro Gly Lys
                565


<210>  87
<211>  565
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  87

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
```

```
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Gln Ala Pro
        115                 120                 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
    130                 135                 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145                 150                 155                 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
                165                 170                 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
            180                 185                 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
        195                 200                 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
    210                 215                 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225                 230                 235                 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
                245                 250                 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
            260                 265                 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
        275                 280                 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
    290                 295                 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305                 310                 315                 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys
```

325 330 335

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
340 345 350

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
355 360 365

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
370 375 380

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
385 390 395 400

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
405 410 415

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
420 425 430

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
435 440 445

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
450 455 460

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

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
485 490 495

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
500 505 510

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
515 520 525

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
530 535 540

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
545 550 555 560

Leu Ser Pro Gly Lys
565

<210> 88
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 88

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Glu Asp Asp Asp Asp Asp Asp Asp
            100                 105                 110

Ser Ser Ser Glu Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
        195                 200                 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
                245                 250                 255
```

```
Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
            260                 265                 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
        275                 280                 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
    290                 295                 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305                 310                 315                 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro
                325                 330                 335

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
            340                 345                 350

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        355                 360                 365

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
    370                 375                 380

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
385                 390                 395                 400

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
                405                 410                 415

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
            420                 425                 430

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
        435                 440                 445

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
    450                 455                 460

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
                485                 490                 495

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
            500                 505                 510

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
        515                 520                 525
```

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
530 535 540

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
545 550 555 560

Ser Leu Ser Pro Gly Lys
565

<210> 89
<211> 495
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 89

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Asp Ser Leu Thr Ser Ser
1 5 10 15

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg His
20 25 30

Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu
35 40 45

Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys
50 55 60

Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly
65 70 75 80

Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His
85 90 95

Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly
100 105 110

Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn
115 120 125

Tyr Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln
130 135 140

Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asp Val Glu
145 150 155 160

Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu
165 170 175

Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro

180 185 190

Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu
195 200 205

Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr
210 215 220

Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu
225 230 235 240

Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala Pro Glu
245 250 255

Ala Arg Tyr Thr Asp Gly Ser Glu Pro Lys Ser Ser Asp Lys Thr His
260 265 270

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

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
290 295 300

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
305 310 315 320

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
325 330 335

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
340 345 350

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
355 360 365

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
370 375 380

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
385 390 395 400

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
405 410 415

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
420 425 430

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
435 440 445

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg

450 455 460

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
465 470 475 480

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
485 490 495

<210> 90
<211> 468
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 90

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Ala Pro Tyr Trp Thr His
1 5 10 15

Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr
20 25 30

Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg
35 40 45

Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly
50 55 60

Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val
65 70 75 80

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

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

Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val
115 120 125

Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro
130 135 140

His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly
145 150 155 160

Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn
165 170 175

Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp
180 185 190

```
Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr
        195                 200                 205

Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr
    210                 215                 220

Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp Gly Ser Glu Pro Lys Ser
225                 230                 235                 240

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
                245                 250                 255

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

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
        275                 280                 285

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
    290                 295                 300

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
305                 310                 315                 320

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
                325                 330                 335

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
            340                 345                 350

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
        355                 360                 365

Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
    370                 375                 380

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
385                 390                 395                 400

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
                405                 410                 415

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
            420                 425                 430

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
        435                 440                 445

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
    450                 455                 460
```

Ser Pro Gly Lys
465

<210> 91
<211> 571
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 91

Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln Pro Trp Gly Ala Pro
1 5 10 15

Val Glu Val Glu Ser Phe Leu Val His Pro Gly Asp Leu Leu Gln Leu
20 25 30

Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile Asn Trp Leu Arg Asp
35 40 45

Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg Ile Thr Gly Glu Glu
50 55 60

Val Glu Val Gln Asp Ser Val Pro Ala Asp Ser Gly Leu Tyr Ala Cys
65 70 75 80

Val Thr Ser Ser Pro Ser Gly Ser Asp Thr Thr Tyr Phe Ser Val Asn
85 90 95

Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp
100 105 110

Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val
115 120 125

Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys Leu His Ala
130 135 140

Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys Pro Ser Ser Gly Thr
145 150 155 160

Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly Lys Glu Phe Lys Pro
165 170 175

Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr Ala Thr Trp Ser Ile
180 185 190

Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr Cys Ile
195 200 205

Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr Gln Leu Asp Val

210 215 220

Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala
225 230 235 240

Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val
245 250 255

Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val
260 265 270

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

Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu Met Glu Val Leu His
290 295 300

Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala
305 310 315 320

Gly Asn Ser Ile Gly Leu Ser His His Ser Ala Trp Leu Thr Val Leu
325 330 335

Glu Ala Leu Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro
340 345 350

Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
355 360 365

Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
370 375 380

Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn
385 390 395 400

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
405 410 415

Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
420 425 430

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
435 440 445

Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
450 455 460

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp
465 470 475 480

Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe

485 490 495

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
500 505 510

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

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
530 535 540

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
545 550 555 560

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570

<210> 92
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 92

Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser
1 5 10 15

Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Arg Met
20 25 30

<210> 93
<211> 348
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 93

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys

```
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Ala Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr
                325                 330                 335

Trp Thr Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp
```

340 345

<210> 94
<211> 261
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 94

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Asp Ser Leu Thr Ser Ser
1 5 10 15

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg His
20 25 30

Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu
35 40 45

Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys
50 55 60

Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly
65 70 75 80

Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His
85 90 95

Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser Asp Arg Gly
100 105 110

Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn
115 120 125

Tyr Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln
130 135 140

Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser Asp Val Glu
145 150 155 160

Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu
165 170 175

Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro
180 185 190

Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu
195 200 205

Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr
210 215 220

Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu
225 230 235 240

Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr Ala Ala Ala Pro Glu
245 250 255

Ala Arg Tyr Thr Asp
260

<210> 95
<211> 234
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 95

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Ala Pro Tyr Trp Thr His
1 5 10 15

Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr
20 25 30

Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg
35 40 45

Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly
50 55 60

Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val
65 70 75 80

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

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

Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val
115 120 125

Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro
130 135 140

His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly
145 150 155 160

Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn
165 170 175

Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp

180 185 190

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

Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Glu Asp Pro Thr Trp Thr
210 215 220

Ala Ala Ala Pro Glu Ala Arg Tyr Thr Asp
225 230

<210> 96
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 96

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Pro Ser Asn Arg
1 5 10 15

<210> 97
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 97

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp Leu Ser Asn Arg
1 5 10 15

<210> 98
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 98

Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu Lys Glu Thr
1 5 10 15

Asp

<210> 99
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 99

Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu
1 5 10 15

<210> 100
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 100

Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala Glu Asp
1 5 10

<210> 101
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 101

Asp Asp Glu Asp
1

<210> 102
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 102

Glu Asp Asp Asp Asp Asp Asp Asp
1 5

<210> 103
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 103

Asp Asp Glu Asp Asp
1 5

<210> 104
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 104

Asp Asp Glu Asp
1

<210> 105
<211> 333
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 105

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Lys Glu Thr Asp His Ser Tyr Pro Gln Gln Ala Pro
115 120 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
130 135 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145 150 155 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
165 170 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
180 185 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu

195 200 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
210 215 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225 230 235 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
245 250 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
260 265 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
275 280 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
290 295 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305 310 315 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 106
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 106

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

```
Gly Asp Ser Leu Thr Ser Ser Asp Asp Glu Asp Asp Thr Asp Gly Ala
            100                 105                 110

Glu Asp Phe Val Ser Glu His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330
```

<210> 107
<211> 328
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 107

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu
            100                 105                 110

Ala Glu Asp His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro
        115                 120                 125

Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val
    130                 135                 140

Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp
145                 150                 155                 160

Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile
                165                 170                 175

Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro
            180                 185                 190

Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser
        195                 200                 205

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

Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly
225                 230                 235                 240

Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His
                245                 250                 255

Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala
```

260 265 270

Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser
275 280 285

Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala
290 295 300

Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln
305 310 315 320

Ser Ala Trp Leu Thr Val Leu Pro
325

<210> 108
<211> 335
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 108

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Glu Asp Asp Asp Asp Asp Asp Asp
100 105 110

Pro Lys Ser His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln
115 120 125

Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala
130 135 140

Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn
145 150 155 160

```
Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly
                165                 170                 175

Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu
            180                 185                 190

Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu
        195                 200                 205

Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val
    210                 215                 220

Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala
225                 230                 235                 240

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

Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile
            260                 265                 270

Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu
        275                 280                 285

Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg
    290                 295                 300

Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn
305                 310                 315                 320

Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330                 335


<210>  109
<211>  332
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  109

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
```

```
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Pro Lys Ser
            100                 105                 110

His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr
        115                 120                 125

Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala
    130                 135                 140

Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro
145                 150                 155                 160

Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg
                165                 170                 175

Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu
            180                 185                 190

Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn
        195                 200                 205

Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg
    210                 215                 220

Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr
225                 230                 235                 240

Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp
                245                 250                 255

Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser
            260                 265                 270

Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala
        275                 280                 285

Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser
    290                 295                 300

Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly
305                 310                 315                 320

Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
```

325 330

<210> 110
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 110

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

```
Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330
```

<210> 111
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 111

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
```

115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 112
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 112

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

```
Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285
```

```
Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330
```

<210> 113
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 113

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Glu Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
```

180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 114
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 114

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

```
Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Glu Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330
```

<210> 115
<211> 332
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 115

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Asp Asp Asp Asp Asp Ser Ser
100 105 110

Ser Glu Glu Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr
115 120 125

Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala
130 135 140

Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro
145 150 155 160

Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg
165 170 175

Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu
180 185 190

Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn
195 200 205

Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg
210 215 220

Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr
225 230 235 240

Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp

245 250 255

Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser
260 265 270

Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala
275 280 285

Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser
290 295 300

Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly
305 310 315 320

Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 116
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 116

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Asp Asp Asp Ser Ser Ser
100 105 110

Glu Glu Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

```
Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330


<210>  117
<211>  333
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  117

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
```

35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro
115 120 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
130 135 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145 150 155 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
165 170 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
180 185 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
195 200 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
210 215 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225 230 235 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
245 250 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
260 265 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
275 280 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
290 295 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile

305 310 315 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 118
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 118

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Glu Glu Lys Glu Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

```
Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330


<210>  119
<211>  331
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  119

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Ser Ser Ser
```

```
            100                 105                 110

Glu Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330


<210>  120
<211>  334
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  120
```

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Ala Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
        195                 200                 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
                245                 250                 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
            260                 265                 270
```

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
275 280 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
290 295 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305 310 315 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 121
<211> 334
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 121

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
115 120 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
130 135 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Ala Pro
145 150 155 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu

165 170 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
195 200 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
260 265 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
275 280 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
290 295 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305 310 315 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 122
<211> 356
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 122

Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu
1 5 10 15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
20 25 30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
35 40 45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
50 55 60

```
Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65                  70                  75                  80

Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
                85                  90                  95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Glu Asp
            100                 105                 110

Asp Asp Asp Asp Asp Asp Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
        115                 120                 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
    130                 135                 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145                 150                 155                 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
                165                 170                 175

Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
            180                 185                 190

Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
        275                 280                 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
    290                 295                 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305                 310                 315                 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
                325                 330                 335
```

```
Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
            340                 345                 350


Asp Tyr Leu Glu
        355


<210>  123
<211>  353
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  123

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


Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
            20                  25                  30


Asp Ala Val Glu Leu Ser Cys Pro Pro Pro Gly Gly Gly Pro Met Gly
        35                  40                  45


Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
    50                  55                  60


Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65                  70                  75                  80


Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
                85                  90                  95


Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Glu Asp Asp
            100                 105                 110


Asp Asp Asp Asp Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
        115                 120                 125


Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
    130                 135                 140


Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160


Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
                165                 170                 175


His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
            180                 185                 190


Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
```

195 200 205

Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
260 265 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
275 280 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
290 295 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305 310 315 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
325 330 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val Tyr Ala
340 345 350

Gly

<210> 124
<211> 565
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 124

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

```
Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp His Ser Tyr Pro Gln Gln Ala Pro
        115                 120                 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
    130                 135                 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145                 150                 155                 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
                165                 170                 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
            180                 185                 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
        195                 200                 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
    210                 215                 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225                 230                 235                 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
                245                 250                 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
            260                 265                 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
        275                 280                 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
    290                 295                 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305                 310                 315                 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys
                325                 330                 335
```

```
Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
            340                 345                 350

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
        355                 360                 365

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
    370                 375                 380

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
385                 390                 395                 400

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
                405                 410                 415

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
            420                 425                 430

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
        435                 440                 445

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
    450                 455                 460

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

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
                485                 490                 495

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
            500                 505                 510

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
        515                 520                 525

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
    530                 535                 540

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
545                 550                 555                 560

Leu Ser Pro Gly Lys
                565
```

<210> 125
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 125

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Glu Asp Asp Thr Asp Gly Ala
            100                 105                 110

Glu Asp Phe Val Ser Glu His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
```

260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
325 330 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
340 345 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
355 360 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
370 375 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385 390 395 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
405 410 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
420 425 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
435 440 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
485 490 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
500 505 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
515 520 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met

530 535 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545 550 555 560

Pro Gly Lys

<210> 126
<211> 560
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 126

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu
100 105 110

Ala Glu Asp His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp Thr His Pro
115 120 125

Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly Asn Thr Val
130 135 140

Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp
145 150 155 160

Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile
165 170 175

Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro
180 185 190

```
Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser
        195                 200                 205

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

Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly
225                 230                 235                 240

Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His
                245                 250                 255

Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala
            260                 265                 270

Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser
        275                 280                 285

Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala
    290                 295                 300

Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln
305                 310                 315                 320

Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser Asp Lys Thr
                325                 330                 335

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
            340                 345                 350

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
        355                 360                 365

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
    370                 375                 380

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
385                 390                 395                 400

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
                405                 410                 415

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
            420                 425                 430

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
        435                 440                 445

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
    450                 455                 460
```

```
Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys
465                 470                 475                 480

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
                485                 490                 495

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
            500                 505                 510

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
        515                 520                 525

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
    530                 535                 540

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
545                 550                 555                 560
```

<210> 127
<211> 335
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 127

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Glu Asp Asp Asp Asp Asp Asp Asp
            100                 105                 110

Pro Lys Ser His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln
        115                 120                 125

Ala Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala
```

130 135 140

Val Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn
145 150 155 160

Pro Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly
165 170 175

Glu Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu
180 185 190

Val Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu
195 200 205

Val Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val
210 215 220

Leu Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala
225 230 235 240

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

Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile
260 265 270

Asn Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu
275 280 285

Lys Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg
290 295 300

Asn Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn
305 310 315 320

Ser Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330 335

<210> 128
<211> 564
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 128

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

```
Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Pro Lys Ser
            100                 105                 110

His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr
        115                 120                 125

Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala
    130                 135                 140

Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro
145                 150                 155                 160

Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg
                165                 170                 175

Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu
            180                 185                 190

Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn
        195                 200                 205

Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg
    210                 215                 220

Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr
225                 230                 235                 240

Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp
                245                 250                 255

Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser
            260                 265                 270

Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala
        275                 280                 285

Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser
    290                 295                 300
```

```
Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly
305                 310                 315                 320

Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser
                325                 330                 335

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
            340                 345                 350

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
        355                 360                 365

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
    370                 375                 380

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
385                 390                 395                 400

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
                405                 410                 415

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
            420                 425                 430

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
        435                 440                 445

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
    450                 455                 460

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

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
                485                 490                 495

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
            500                 505                 510

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
        515                 520                 525

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
    530                 535                 540

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
545                 550                 555                 560

Ser Pro Gly Lys
```

<210> 129
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 129

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
```

225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
325 330 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
340 345 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
355 360 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
370 375 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385 390 395 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
405 410 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
420 425 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
435 440 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
485 490 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro

500 505 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
515 520 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
530 535 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545 550 555 560

Pro Gly Lys

<210> 130
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 130

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

```
Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
                325                 330                 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430
```

```
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
                485                 490                 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
            500                 505                 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
        515                 520                 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
    530                 535                 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545                 550                 555                 560

Pro Gly Lys
```

<210> 131
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 131

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
```

85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Lys Ser His
100 105 110

Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
325 330 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
340 345 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met

355 360 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
370 375 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385 390 395 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
405 410 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
420 425 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
435 440 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
485 490 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
500 505 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
515 520 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
530 535 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545 550 555 560

Pro Gly Lys

<210> 132
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 132

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

```
Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110

Glu Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285
```

```
Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
                325                 330                 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
                485                 490                 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
            500                 505                 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
        515                 520                 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
    530                 535                 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545                 550                 555                 560
```

Pro Gly Lys

<210> 133
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 133

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
100 105 110

Arg Asp Pro Glu Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser

210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
325 330 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
340 345 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
355 360 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
370 375 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385 390 395 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
405 410 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
420 425 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
435 440 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu

485 490 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
500 505 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
515 520 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
530 535 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545 550 555 560

Pro Gly Lys

<210> 134
<211> 564
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 134

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Asp Asp Asp Asp Ser Ser
100 105 110

Ser Glu Glu Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr
115 120 125

Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala
130 135 140

```
Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro
145                 150                 155                 160

Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg
                165                 170                 175

Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu
            180                 185                 190

Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn
        195                 200                 205

Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg
    210                 215                 220

Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr
225                 230                 235                 240

Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp
                245                 250                 255

Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser
            260                 265                 270

Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala
        275                 280                 285

Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser
    290                 295                 300

Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly
305                 310                 315                 320

Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser
                325                 330                 335

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
            340                 345                 350

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
        355                 360                 365

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
    370                 375                 380

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
385                 390                 395                 400

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
                405                 410                 415
```

```
Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
            420                 425                 430

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
        435                 440                 445

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
    450                 455                 460

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

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
                485                 490                 495

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
            500                 505                 510

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
        515                 520                 525

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
    530                 535                 540

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
545                 550                 555                 560

Ser Pro Gly Lys
```

<210> 135
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 135

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
```

65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asp Asp Asp Asp Asp Asp Ser Ser Ser
100 105 110

Glu Glu Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
130 135 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145 150 155 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
165 170 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
180 185 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
195 200 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
210 215 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225 230 235 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
245 250 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
260 265 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
275 280 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
290 295 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305 310 315 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
325 330 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly

```
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
                485                 490                 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
            500                 505                 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
        515                 520                 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
    530                 535                 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545                 550                 555                 560

Pro Gly Lys


<210>  136
<211>  565
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  136
```

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ser Leu Thr Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser His Arg Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro
        115                 120                 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
    130                 135                 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145                 150                 155                 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
                165                 170                 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
            180                 185                 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
        195                 200                 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
    210                 215                 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225                 230                 235                 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
                245                 250                 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
            260                 265                 270
```

```
Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
        275                 280                 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
    290                 295                 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305                 310                 315                 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys
                325                 330                 335

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
            340                 345                 350

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
        355                 360                 365

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
    370                 375                 380

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
385                 390                 395                 400

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
                405                 410                 415

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
            420                 425                 430

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
        435                 440                 445

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
    450                 455                 460

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

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
                485                 490                 495

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
            500                 505                 510

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
        515                 520                 525

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
    530                 535                 540
```

```
Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
545                 550                 555                 560


Leu Ser Pro Gly Lys
                565


<210>  137
<211>  563
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  137

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15


Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30


Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45


Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60


Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80


Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95


Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Pro Lys Ser His
            100                 105                 110


Glu Glu Lys Glu Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
        115                 120                 125


Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140


Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160


Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175


Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190


Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
```

```
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
                325                 330                 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
```

465 470 475 480

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
485 490 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
500 505 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
515 520 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
530 535 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545 550 555 560

Pro Gly Lys

<210> 138
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 138

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Asn Asp Asp Glu Asp Asp Ser Ser Ser
100 105 110

Glu Asp Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro Tyr Trp
115 120 125

```
Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
                325                 330                 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400
```

```
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
                485                 490                 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
            500                 505                 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
        515                 520                 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
    530                 535                 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
545                 550                 555                 560

Pro Gly Lys
```

<210> 139
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 139

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
```

```
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Ala Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
        195                 200                 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
                245                 250                 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
            260                 265                 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
        275                 280                 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
    290                 295                 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305                 310                 315                 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro
```

325 330 335

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
340 345 350

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
355 360 365

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
370 375 380

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
385 390 395 400

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
405 410 415

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
420 425 430

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
435 440 445

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
450 455 460

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
485 490 495

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
500 505 510

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
515 520 525

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
530 535 540

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
545 550 555 560

Ser Leu Ser Pro Gly Lys
565

<210> 140
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 140

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                  10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Ala Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
        195                 200                 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
                245                 250                 255
```

```
Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
            260                 265                 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
        275                 280                 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
    290                 295                 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305                 310                 315                 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro
                325                 330                 335

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
            340                 345                 350

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        355                 360                 365

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
    370                 375                 380

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
385                 390                 395                 400

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
                405                 410                 415

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
            420                 425                 430

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
        435                 440                 445

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
    450                 455                 460

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
                485                 490                 495

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
            500                 505                 510

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
        515                 520                 525
```

```
Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
    530                 535                 540

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
545                 550                 555                 560

Ser Leu Ser Pro Gly Lys
                565
```

<210> 141
<211> 588
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 141

```
Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu
1               5                   10                  15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
            20                  25                  30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
        35                  40                  45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
    50                  55                  60

Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65                  70                  75                  80

Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
                85                  90                  95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Glu Asp
            100                 105                 110

Asp Asp Asp Asp Asp Asp Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
        115                 120                 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
    130                 135                 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145                 150                 155                 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
                165                 170                 175

Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
```

```
            180                 185                 190

Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
        275                 280                 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
    290                 295                 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305                 310                 315                 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
                325                 330                 335

Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
            340                 345                 350

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

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe
    370                 375                 380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
385                 390                 395                 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
                405                 410                 415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
            420                 425                 430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
        435                 440                 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
```

```
450                 455                 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
465                 470                 475                 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
                485                 490                 495

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
            500                 505                 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
        515                 520                 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
    530                 535                 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
545                 550                 555                 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
                565                 570                 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
            580                 585
```

<210> 142
<211> 585
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 142

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

Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
            20                  25                  30

Asp Ala Val Glu Leu Ser Cys Pro Pro Pro Gly Gly Gly Pro Met Gly
        35                  40                  45

Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
    50                  55                  60

Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65                  70                  75                  80

Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
                85                  90                  95
```

```
Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Glu Asp Asp
            100                 105                 110

Asp Asp Asp Asp Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
        115                 120                 125

Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
    130                 135                 140

Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160

Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
                165                 170                 175

His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
        195                 200                 205

Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
                245                 250                 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
            260                 265                 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
        275                 280                 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
    290                 295                 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305                 310                 315                 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
                325                 330                 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val Tyr Ala
            340                 345                 350

Gly Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
        355                 360                 365
```

```
Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
    370                 375                 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385                 390                 395                 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
                405                 410                 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
            420                 425                 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
        435                 440                 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
    450                 455                 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465                 470                 475                 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu
                485                 490                 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
            500                 505                 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
        515                 520                 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
    530                 535                 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545                 550                 555                 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
                565                 570                 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
            580                 585
```

<210> 143
<211> 563
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 143

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
```

```
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala
            100                 105                 110

Glu Asp Phe Val Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp
        115                 120                 125

Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro Ala Gly
    130                 135                 140

Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr
145                 150                 155                 160

Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile
                165                 170                 175

Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser
            180                 185                 190

Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala
        195                 200                 205

Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser
    210                 215                 220

Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala
225                 230                 235                 240

Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala
                245                 250                 255

Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser
            260                 265                 270

Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp
```

```
        275                 280                 285

Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala
    290                 295                 300

Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu
305                 310                 315                 320

Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser
                325                 330                 335

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
            340                 345                 350

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
        355                 360                 365

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
    370                 375                 380

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
385                 390                 395                 400

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
                405                 410                 415

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
            420                 425                 430

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
        435                 440                 445

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

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

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
                485                 490                 495

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
            500                 505                 510

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
        515                 520                 525

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
    530                 535                 540

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
```

545 550 555 560

Pro Gly Lys

<210> 144
<211> 559
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 144

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ala Pro Ser Ser Gly Asp Asp Glu Asp Gly Glu Asp Glu Ala
100 105 110

Glu Asp Thr Gly Val Asp Thr Gly Ala Pro Tyr Trp Thr His Pro Gln
115 120 125

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

Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr Pro Thr Ile Arg Trp Leu
145 150 155 160

Lys Asp Gly Gln Ala Phe His Gly Glu Asn Arg Ile Gly Gly Ile Arg
165 170 175

Leu Arg His Gln His Trp Ser Leu Val Met Glu Ser Val Val Pro Ser
180 185 190

Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu Asn Ala Val Gly Ser Ile
195 200 205

```
Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu Arg Ser Pro His Arg Pro
    210                 215                 220

Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr Thr Ala Val Val Gly Ser
225                 230                 235                 240

Asp Val Glu Leu Leu Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile
                245                 250                 255

Gln Trp Leu Lys His Ile Val Ile Asn Gly Ser Ser Phe Gly Ala Asp
            260                 265                 270

Gly Phe Pro Tyr Val Gln Val Leu Lys Thr Ala Asp Ile Asn Ser Ser
        275                 280                 285

Glu Val Glu Val Leu Tyr Leu Arg Asn Val Ser Ala Glu Asp Ala Gly
    290                 295                 300

Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser Tyr Gln Ser
305                 310                 315                 320

Ala Trp Leu Thr Val Leu Pro Glu Pro Lys Ser Ser Asp Lys Thr His
                325                 330                 335

Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val
            340                 345                 350

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
        355                 360                 365

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
    370                 375                 380

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
385                 390                 395                 400

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
                405                 410                 415

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
            420                 425                 430

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
        435                 440                 445

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
    450                 455                 460

Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
465                 470                 475                 480
```

```
Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
                485                 490                 495

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
            500                 505                 510

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
        515                 520                 525

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
    530                 535                 540

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
545                 550                 555


<210>  145
<211>  11
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  145

Asn Asp Asp Glu Asp Pro Lys Ser His Arg Asp
1               5                   10


<210>  146
<211>  7
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  146

Asn Asp Asp Glu Asp Pro Lys
1               5


<210>  147
<211>  4
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic sequence

<400>  147

Arg Asp Pro Ser
1


<210>  148
<211>  5
<212>  PRT
<213>  Artificial Sequence
```

<220>
<223> Synthetic sequence

<400> 148

Pro Lys Ser His Arg
1 5

<210> 149
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 149

Asp Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu
1 5 10

<210> 150
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 150

Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu
1 5 10

<210> 151
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 151

Glu Asp Asp Asp Asp Asp Asp Asp Ser
1 5

<210> 152
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 152

Glu Glu Lys Glu
1

<210> 153
<211> 5
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 153

Asp Ser Ser Ser Glu
1 5

<210> 154
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 154

Glu Asp Asp Asp Asp Asp Asp Asp
1 5

<210> 155
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 155

Asp Asp Glu Asp Asp Thr Asp Gly
1 5

<210> 156
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 156

Gly Asp Asp Glu Asp Gly Glu Asp
1 5

<210> 157
<211> 333
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 157

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val

20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro
115 120 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
130 135 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145 150 155 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
165 170 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
180 185 190

Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
195 200 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
210 215 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225 230 235 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
245 250 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
260 265 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
275 280 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val

290 295 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305 310 315 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
325 330

<210> 158
<211> 565
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 158

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
20 25 30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
35 40 45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
50 55 60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65 70 75 80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Asn Leu Thr Leu Ile Thr
85 90 95

Gly Asp Ser Leu Thr Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
100 105 110

Ser Ser Glu Glu Pro Ser Asn Arg His Ser Tyr Pro Gln Gln Ala Pro
115 120 125

Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val Pro
130 135 140

Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Asn Pro Thr
145 150 155 160

Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu Asn
165 170 175

Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val Met
180 185 190

```
Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val Glu
        195                 200                 205

Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu Glu
    210                 215                 220

Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Thr
225                 230                 235                 240

Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr Ser
                245                 250                 255

Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn Gly
            260                 265                 270

Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys Thr
        275                 280                 285

Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn Val
    290                 295                 300

Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile
305                 310                 315                 320

Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro Lys
                325                 330                 335

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
            340                 345                 350

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
        355                 360                 365

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
    370                 375                 380

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
385                 390                 395                 400

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
                405                 410                 415

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
            420                 425                 430

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
        435                 440                 445

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
    450                 455                 460
```

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

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
                485                 490                 495

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
            500                 505                 510

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
        515                 520                 525

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
    530                 535                 540

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
545                 550                 555                 560

Leu Ser Pro Gly Lys
                565
```

<210> 159
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 159

```
Glu Asp Asp Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu
1               5                   10
```

<210> 160
<211> 353
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 160

```
Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu
1               5                   10                  15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
            20                  25                  30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
        35                  40                  45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
    50                  55                  60
```

```
Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65                  70                  75                  80

Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
                85                  90                  95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Asp Asp
            100                 105                 110

Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
        115                 120                 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
    130                 135                 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145                 150                 155                 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
                165                 170                 175

Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
            180                 185                 190

Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
        275                 280                 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
    290                 295                 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305                 310                 315                 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
                325                 330                 335
```

Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
340 345 350

Asp

<210> 161
<211> 350
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 161

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

Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
20 25 30

Asp Ala Val Glu Leu Ser Cys Pro Pro Pro Gly Gly Gly Pro Met Gly
35 40 45

Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
50 55 60

Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65 70 75 80

Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
85 90 95

Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Gly Asp Asp
100 105 110

Glu Asp Gly Glu Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
115 120 125

Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
130 135 140

Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145 150 155 160

Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
165 170 175

His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val

195 200 205

Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
260 265 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
275 280 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
290 295 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305 310 315 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
325 330 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val
340 345 350

<210> 162
<211> 587
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 162

Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu
1 5 10 15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
20 25 30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
35 40 45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
50 55 60

Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65 70 75 80

```
Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
                85                  90                  95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Asp Asp
            100                 105                 110

Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
        115                 120                 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
    130                 135                 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145                 150                 155                 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
                165                 170                 175

Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
            180                 185                 190

Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
        275                 280                 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
    290                 295                 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305                 310                 315                 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
                325                 330                 335

Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
            340                 345                 350
```

```
Asp Gly Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro
        355                 360                 365

Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
    370                 375                 380

Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
385                 390                 395                 400

Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn
                405                 410                 415

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
            420                 425                 430

Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
        435                 440                 445

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
    450                 455                 460

Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
465                 470                 475                 480

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp
                485                 490                 495

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

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
        515                 520                 525

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
    530                 535                 540

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
545                 550                 555                 560

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
                565                 570                 575

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
            580                 585
```

<210> 163
<211> 584
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 163

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

Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
            20                  25                  30

Asp Ala Val Glu Leu Ser Cys Pro Pro Pro Gly Gly Gly Pro Met Gly
        35                  40                  45

Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
    50                  55                  60

Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65                  70                  75                  80

Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
                85                  90                  95

Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Gly Asp Asp
            100                 105                 110

Glu Asp Gly Glu Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
        115                 120                 125

Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
    130                 135                 140

Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145                 150                 155                 160

Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
                165                 170                 175

His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
        195                 200                 205

Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
                245                 250                 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
```

260 265 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
275 280 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
290 295 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305 310 315 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
325 330 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val Gly Ser
340 345 350

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
355 360 365

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr

530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
580

<210> 164
<211> 353
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 164

Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu
1 5 10 15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
20 25 30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
35 40 45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
50 55 60

Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65 70 75 80

Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
85 90 95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Glu Asp
100 105 110

Asp Asp Asp Asp Asp Asp Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
115 120 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
130 135 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145 150 155 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
165 170 175

```
Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
            180                 185                 190

Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
        275                 280                 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
    290                 295                 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305                 310                 315                 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
                325                 330                 335

Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
            340                 345                 350

Asp
```

<210> 165
<211> 350
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 165

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

Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
            20                  25                  30

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

35 40 45

Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
50 55 60

Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65 70 75 80

Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
85 90 95

Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Glu Asp Asp
100 105 110

Asp Asp Asp Asp Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
115 120 125

Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
130 135 140

Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145 150 155 160

Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
165 170 175

His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
195 200 205

Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
260 265 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
275 280 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
290 295 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly

305 310 315 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
325 330 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val
340 345 350

<210> 166
<211> 587
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 166

Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu
1 5 10 15

Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala
20 25 30

Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val
35 40 45

Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr
50 55 60

Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp
65 70 75 80

Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr
85 90 95

Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Glu Asp
100 105 110

Asp Asp Asp Asp Asp Asp Ala Glu Asp Phe Val Ser Glu Asn Ser Asn
115 120 125

Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg
130 135 140

Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala
145 150 155 160

Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu
165 170 175

Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His
180 185 190

```
Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr
        195                 200                 205

Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His
    210                 215                 220

Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly
225                 230                 235                 240

Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val
                245                 250                 255

Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His
            260                 265                 270

Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu
        275                 280                 285

Lys Val Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu
    290                 295                 300

Val Leu Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr
305                 310                 315                 320

Cys Leu Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu
                325                 330                 335

Thr Val Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro
            340                 345                 350

Asp Gly Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro
        355                 360                 365

Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
    370                 375                 380

Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
385                 390                 395                 400

Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn
                405                 410                 415

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
            420                 425                 430

Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
        435                 440                 445

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
    450                 455                 460
```

```
Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
465                 470                 475                 480

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp
                485                 490                 495

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

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
        515                 520                 525

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
    530                 535                 540

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
545                 550                 555                 560

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr
                565                 570                 575

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
            580                 585
```

<210> 167
<211> 584
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 167

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

Pro Gly Pro Glu Pro Gly Gln Gln Glu Gln Leu Val Phe Gly Ser Gly
            20                  25                  30

Asp Ala Val Glu Leu Ser Cys Pro Pro Pro Gly Gly Gly Pro Met Gly
        35                  40                  45

Pro Thr Val Trp Val Lys Asp Gly Thr Gly Leu Val Pro Ser Glu Arg
    50                  55                  60

Val Leu Val Gly Pro Gln Arg Leu Gln Val Leu Asn Ala Ser His Glu
65                  70                  75                  80

Asp Ser Gly Ala Tyr Ser Cys Arg Gln Arg Leu Thr Gln Arg Val Leu
                85                  90                  95

Cys His Phe Ser Val Arg Val Thr Asp Ala Pro Ser Ser Glu Asp Asp
```

100 105 110

Asp Asp Asp Asp Asp Glu Ala Glu Asp Thr Gly Val Asp Thr Gly Ala
115 120 125

Pro Tyr Trp Thr Arg Pro Glu Arg Met Asp Lys Lys Leu Leu Ala Val
130 135 140

Pro Ala Ala Asn Thr Val Arg Phe Arg Cys Pro Ala Ala Gly Asn Pro
145 150 155 160

Thr Pro Ser Ile Ser Trp Leu Lys Asn Gly Arg Glu Phe Arg Gly Glu
165 170 175

His Arg Ile Gly Gly Ile Lys Leu Arg His Gln Gln Trp Ser Leu Val
180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Asn Tyr Thr Cys Val Val
195 200 205

Glu Asn Lys Phe Gly Ser Ile Arg Gln Thr Tyr Thr Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Gln Thr Ala Val Leu Gly Ser Asp Val Glu Phe His Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Val Glu Val Asn
260 265 270

Gly Ser Lys Val Gly Pro Asp Gly Thr Pro Tyr Val Thr Val Leu Lys
275 280 285

Thr Ala Gly Ala Asn Thr Thr Asp Lys Glu Leu Glu Val Leu Ser Leu
290 295 300

His Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly
305 310 315 320

Asn Ser Ile Gly Phe Ser His His Ser Ala Trp Leu Val Val Leu Pro
325 330 335

Ala Glu Glu Glu Leu Val Glu Ala Asp Glu Ala Gly Ser Val Gly Ser
340 345 350

Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
355 360 365

Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro

370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
580

<210> 168
<211> 334
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 168

Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1 5 10 15

```
Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Ala Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Ala Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
            180                 185                 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
        195                 200                 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
    210                 215                 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225                 230                 235                 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
                245                 250                 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
            260                 265                 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
        275                 280                 285
```

```
Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
    290                 295                 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305                 310                 315                 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro
                325                 330
```

<210> 169
<211> 566
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 169

```
Leu Glu Ala Ser Glu Glu Val Glu Leu Glu Pro Cys Leu Ala Pro Ser
1               5                   10                  15

Leu Glu Gln Gln Glu Gln Glu Leu Thr Val Ala Leu Gly Gln Pro Val
            20                  25                  30

Arg Leu Cys Cys Gly Arg Ala Glu Arg Gly Gly His Trp Tyr Lys Glu
        35                  40                  45

Gly Ser Arg Leu Ala Pro Ala Gly Arg Val Arg Gly Trp Arg Gly Arg
    50                  55                  60

Leu Glu Ile Ala Ser Phe Leu Pro Glu Asp Ala Gly Arg Tyr Leu Cys
65                  70                  75                  80

Leu Ala Arg Gly Ser Met Ile Val Leu Gln Ala Leu Thr Leu Ile Thr
                85                  90                  95

Gly Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp Ser
            100                 105                 110

Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val Ala
        115                 120                 125

Pro Tyr Trp Thr His Pro Gln Arg Met Glu Lys Lys Leu His Ala Val
    130                 135                 140

Pro Ala Gly Asn Thr Val Lys Phe Arg Cys Pro Ala Ala Gly Ala Pro
145                 150                 155                 160

Thr Pro Thr Ile Arg Trp Leu Lys Asp Gly Gln Ala Phe His Gly Glu
                165                 170                 175

Asn Arg Ile Gly Gly Ile Arg Leu Arg His Gln His Trp Ser Leu Val
```

180 185 190

Met Glu Ser Val Val Pro Ser Asp Arg Gly Thr Tyr Thr Cys Leu Val
195 200 205

Glu Asn Ala Val Gly Ser Ile Arg Tyr Asn Tyr Leu Leu Asp Val Leu
210 215 220

Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn
225 230 235 240

Thr Thr Ala Val Val Gly Ser Asp Val Glu Leu Leu Cys Lys Val Tyr
245 250 255

Ser Asp Ala Gln Pro His Ile Gln Trp Leu Lys His Ile Val Ile Asn
260 265 270

Gly Ser Ser Phe Gly Ala Asp Gly Phe Pro Tyr Val Gln Val Leu Lys
275 280 285

Thr Ala Asp Ile Asn Ser Ser Glu Val Glu Val Leu Tyr Leu Arg Asn
290 295 300

Val Ser Ala Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser
305 310 315 320

Ile Gly Leu Ser Tyr Gln Ser Ala Trp Leu Thr Val Leu Pro Glu Pro
325 330 335

Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
340 345 350

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
355 360 365

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
370 375 380

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
385 390 395 400

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
405 410 415

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
420 425 430

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
435 440 445

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu

450 455 460

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

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
485 490 495

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
500 505 510

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
515 520 525

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
530 535 540

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
545 550 555 560

Ser Leu Ser Pro Gly Lys
565

<210> 170
<211> 229
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 170

Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe
1 5 10 15

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

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
35 40 45

Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
50 55 60

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

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
85 90 95

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
100 105 110

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

Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
    130                 135                 140

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
145                 150                 155                 160

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

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
            180                 185                 190

Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
        195                 200                 205

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
    210                 215                 220

Leu Ser Leu Gly Lys
225
```

<210> 171
<211> 228
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 171

```
Glu Arg Lys Ser Ser Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val
1               5                   10                  15

Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
            20                  25                  30

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
        35                  40                  45

His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu
    50                  55                  60

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

Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp Leu Asn
                85                  90                  95

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro
```

100 105 110

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

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
130 135 140

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
145 150 155 160

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

Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
180 185 190

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
195 200 205

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
210 215 220

Ser Pro Gly Lys
225

<210> 172
<211> 339
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 172

Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln Pro Trp Gly Ala Pro
1 5 10 15

Val Glu Val Glu Ser Phe Leu Val His Pro Gly Asp Leu Leu Gln Leu
20 25 30

Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile Asn Trp Leu Arg Asp
35 40 45

Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg Ile Thr Gly Glu Glu
50 55 60

Val Glu Val Gln Asp Ser Val Pro Ala Asp Ser Gly Leu Tyr Ala Cys
65 70 75 80

Val Thr Ser Ser Pro Ser Gly Ser Asp Thr Thr Tyr Phe Ser Val Asn
85 90 95

```
Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp Asp Asp Asp Asp Asp
            100                 105                 110

Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Pro Val
        115                 120                 125

Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys Leu His Ala
    130                 135                 140

Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys Pro Ser Ser Gly Thr
145                 150                 155                 160

Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly Lys Glu Phe Lys Pro
                165                 170                 175

Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr Ala Thr Trp Ser Ile
            180                 185                 190

Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr Cys Ile
        195                 200                 205

Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr Gln Leu Asp Val
    210                 215                 220

Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala
225                 230                 235                 240

Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val
                245                 250                 255

Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val
            260                 265                 270

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

Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu Met Glu Val Leu His
    290                 295                 300

Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala
305                 310                 315                 320

Gly Asn Ser Ile Gly Leu Ser His His Ser Ala Trp Leu Thr Val Leu
                325                 330                 335

Glu Ala Leu
```

<210> 173
<211> 374
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 173

```
Met Trp Ser Trp Lys Cys Leu Leu Phe Trp Ala Val Leu Val Thr Ala
1               5                  10                  15

Thr Leu Cys Thr Ala Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln
            20                  25                  30

Pro Trp Gly Ala Pro Val Glu Val Glu Ser Phe Leu Val His Pro Gly
        35                  40                  45

Asp Leu Leu Gln Leu Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile
    50                  55                  60

Asn Trp Leu Arg Asp Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg
65                  70                  75                  80

Ile Thr Gly Glu Glu Val Glu Val Gln Asp Ser Val Pro Ala Asp Ser
                85                  90                  95

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

Tyr Phe Ser Val Asn Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp
        115                 120                 125

Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr
    130                 135                 140

Lys Pro Asn Pro Val Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu
145                 150                 155                 160

Lys Lys Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys
                165                 170                 175

Pro Ser Ser Gly Thr Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly
            180                 185                 190

Lys Glu Phe Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr
        195                 200                 205

Ala Thr Trp Ser Ile Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly
    210                 215                 220

Asn Tyr Thr Cys Ile Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr
225                 230                 235                 240

Tyr Gln Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln
```

245 250 255

Ala Gly Leu Pro Ala Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu
260 265 270

Phe Met Cys Lys Val Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu
275 280 285

Lys His Ile Glu Val Asn Gly Ser Lys Ile Gly Pro Asp Asn Leu Pro
290 295 300

Tyr Val Gln Ile Leu Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu
305 310 315 320

Met Glu Val Leu His Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu
325 330 335

Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser His His Ser Ala
340 345 350

Trp Leu Thr Val Leu Glu Ala Leu Glu Glu Arg Pro Ala Val Met Thr
355 360 365

Ser Pro Leu Tyr Leu Glu
370