SEQUENCE LISTING

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<120> CASZ COMPOSITIONS AND METHODS OF USE

<130> BERK-374WO

<150> US 62/580,395
<151> 2017-11-01

<160> 373

<170> PatentIn version 3.5

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Met Glu Val Gln Lys Thr Val Met Lys Thr Leu Ser Leu Arg Ile Leu
1 5 10 15

Arg Pro Leu Tyr Ser Gln Glu Ile Glu Lys Glu Ile Lys Glu Glu Lys
20 25 30

Glu Arg Arg Lys Gln Ala Gly Gly Thr Gly Glu Leu Asp Gly Gly Phe
35 40 45

Tyr Lys Lys Leu Glu Lys Lys His Ser Glu Met Phe Ser Phe Asp Arg
50 55 60

Leu Asn Leu Leu Leu Asn Gln Leu Gln Arg Glu Ile Ala Lys Val Tyr
65 70 75 80

Asn His Ala Ile Ser Glu Leu Tyr Ile Ala Thr Ile Ala Gln Gly Asn
85 90 95

```
Lys Ser Asn Lys His Tyr Ile Ser Ser Ile Val Tyr Asn Arg Ala Tyr
            100                 105                 110

Gly Tyr Phe Tyr Asn Ala Tyr Ile Ala Leu Gly Ile Cys Ser Lys Val
        115                 120                 125

Glu Ala Asn Phe Arg Ser Asn Glu Leu Leu Thr Gln Gln Ser Ala Leu
    130                 135                 140

Pro Thr Ala Lys Ser Asp Asn Phe Pro Ile Val Leu His Lys Gln Lys
145                 150                 155                 160

Gly Ala Glu Gly Glu Asp Gly Gly Phe Arg Ile Ser Thr Glu Gly Ser
                165                 170                 175

Asp Leu Ile Phe Glu Ile Pro Ile Pro Phe Tyr Glu Tyr Asn Gly Glu
            180                 185                 190

Asn Arg Lys Glu Pro Tyr Lys Trp Val Lys Lys Gly Gly Gln Lys Pro
        195                 200                 205

Val Leu Lys Leu Ile Leu Ser Thr Phe Arg Arg Gln Arg Asn Lys Gly
    210                 215                 220

Trp Ala Lys Asp Glu Gly Thr Asp Ala Glu Ile Arg Lys Val Thr Glu
225                 230                 235                 240

Gly Lys Tyr Gln Val Ser Gln Ile Glu Ile Asn Arg Gly Lys Lys Leu
                245                 250                 255

Gly Glu His Gln Lys Trp Phe Ala Asn Phe Ser Ile Glu Gln Pro Ile
            260                 265                 270

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

Ile Arg Ser Pro Leu Val Cys Ala Ile Asn Asn Ser Phe Ser Arg Tyr
    290                 295                 300

Ser Val Asp Ser Asn Asp Val Phe Lys Phe Ser Lys Gln Val Phe Ala
```

```
305                 310                 315                 320

Phe Arg Arg Arg Leu Leu Ser Lys Asn Ser Leu Lys Arg Lys Gly His
                325                 330                 335

Gly Ala Ala His Lys Leu Glu Pro Ile Thr Glu Met Thr Glu Lys Asn
            340                 345                 350

Asp Lys Phe Arg Lys Lys Ile Ile Glu Arg Trp Ala Lys Glu Val Thr
        355                 360                 365

Asn Phe Phe Val Lys Asn Gln Val Gly Ile Val Gln Ile Glu Asp Leu
    370                 375                 380

Ser Thr Met Lys Asp Arg Glu Asp His Phe Phe Asn Gln Tyr Leu Arg
385                 390                 395                 400

Gly Phe Trp Pro Tyr Tyr Gln Met Gln Thr Leu Ile Glu Asn Lys Leu
                405                 410                 415

Lys Glu Tyr Gly Ile Glu Val Lys Arg Val Gln Ala Lys Tyr Thr Ser
            420                 425                 430

Gln Leu Cys Ser Asn Pro Asn Cys Arg Tyr Trp Asn Asn Tyr Phe Asn
        435                 440                 445

Phe Glu Tyr Arg Lys Val Asn Lys Phe Pro Lys Phe Lys Cys Glu Lys
    450                 455                 460

Cys Asn Leu Glu Ile Ser Ala Asp Tyr Asn Ala Ala Arg Asn Leu Ser
465                 470                 475                 480

Thr Pro Asp Ile Glu Lys Phe Val Ala Lys Ala Thr Lys Gly Ile Asn
                485                 490                 495

Leu Pro Glu Lys
            500
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Met Glu Glu Ala Lys Thr Val Ser Lys Thr Leu Ser Leu Arg Ile Leu
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Arg Pro Leu Tyr Ser Ala Glu Ile Glu Lys Glu Ile Lys Glu Glu Lys
            20                  25                  30


Glu Arg Arg Lys Gln Gly Gly Lys Ser Gly Glu Leu Asp Ser Gly Phe
        35                  40                  45


Tyr Lys Lys Leu Glu Lys Lys His Thr Gln Met Phe Gly Trp Asp Lys
    50                  55                  60


Leu Asn Leu Met Leu Ser Gln Leu Gln Arg Gln Ile Ala Arg Val Phe
65                  70                  75                  80


Asn Gln Ser Ile Ser Glu Leu Tyr Ile Glu Thr Val Ile Gln Gly Lys
                85                  90                  95


Lys Ser Asn Lys His Tyr Thr Ser Lys Ile Val Tyr Asn Arg Ala Tyr
            100                 105                 110


Ser Val Phe Tyr Asn Ala Tyr Leu Ala Leu Gly Ile Thr Ser Lys Val
        115                 120                 125


Glu Ala Asn Phe Arg Ser Thr Glu Leu Leu Met Gln Lys Ser Ser Leu
    130                 135                 140


Pro Thr Ala Lys Ser Asp Asn Phe Pro Ile Leu Leu His Lys Gln Lys
145                 150                 155                 160


Gly Val Glu Gly Glu Glu Gly Gly Phe Lys Ile Ser Ala Asp Gly Asn
                165                 170                 175


Asp Leu Ile Phe Glu Ile Pro Ile Pro Phe Tyr Glu Tyr Asp Ser Ala
            180                 185                 190
```

```
Asn Lys Lys Glu Pro Phe Lys Trp Ile Lys Lys Gly Gly Gln Lys Pro
        195                 200                 205

Thr Ile Lys Leu Ile Leu Ser Thr Phe Arg Arg Gln Arg Asn Lys Gly
    210                 215                 220

Trp Ala Lys Asp Glu Gly Thr Asp Ala Glu Ile Arg Lys Val Ile Glu
225                 230                 235                 240

Gly Lys Tyr Gln Val Ser His Ile Glu Ile Asn Arg Gly Lys Lys Leu
                245                 250                 255

Gly Asp His Gln Lys Trp Phe Val Asn Phe Thr Ile Glu Gln Pro Ile
            260                 265                 270

Tyr Glu Arg Lys Leu Asp Lys Asn Ile Ile Gly Gly Ile Asp Val Gly
        275                 280                 285

Ile Lys Ser Pro Leu Val Cys Ala Val Asn Asn Ser Phe Ala Arg Tyr
    290                 295                 300

Ser Val Asp Ser Asn Asp Val Leu Lys Phe Ser Lys Gln Ala Phe Ala
305                 310                 315                 320

Phe Arg Arg Arg Leu Leu Ser Lys Asn Ser Leu Lys Arg Ser Gly His
                325                 330                 335

Gly Ser Lys Asn Lys Leu Asp Pro Ile Thr Arg Met Thr Glu Lys Asn
            340                 345                 350

Asp Arg Phe Arg Lys Lys Ile Ile Glu Arg Trp Ala Lys Glu Val Thr
        355                 360                 365

Asn Phe Phe Ile Lys Asn Gln Val Gly Thr Val Gln Ile Glu Asp Leu
    370                 375                 380

Ser Thr Met Lys Asp Arg Gln Asp Asn Phe Phe Asn Gln Tyr Leu Arg
385                 390                 395                 400

Gly Phe Trp Pro Tyr Tyr Gln Met Gln Asn Leu Ile Glu Asn Lys Leu
```

405 410 415

Lys Glu Tyr Gly Ile Glu Thr Lys Arg Ile Lys Ala Arg Tyr Thr Ser
420 425 430

Gln Leu Cys Ser Asn Pro Ser Cys Arg His Trp Asn Ser Tyr Phe Ser
435 440 445

Phe Asp His Arg Lys Thr Asn Asn Phe Pro Lys Phe Lys Cys Glu Lys
450 455 460

Cys Ala Leu Glu Ile Ser Ala Asp Tyr Asn Ala Ala Arg Asn Ile Ser
465 470 475 480

Thr Pro Asp Ile Glu Lys Phe Val Ala Lys Ala Thr Lys Gly Ile Asn
485 490 495

Leu Pro Asp Lys Asn Glu Asn Val Ile Leu Glu
500 505

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Met Ala Lys Asn Thr Ile Thr Lys Thr Leu Lys Leu Arg Ile Val Arg
1 5 10 15

Pro Tyr Asn Ser Ala Glu Val Glu Lys Ile Val Ala Asp Glu Lys Asn
20 25 30

Asn Arg Glu Lys Ile Ala Leu Glu Lys Asn Lys Asp Lys Val Lys Glu
35 40 45

Ala Cys Ser Lys His Leu Lys Val Ala Ala Tyr Cys Thr Thr Gln Val
50 55 60

Glu Arg Asn Ala Cys Leu Phe Cys Lys Ala Arg Lys Leu Asp Asp Lys

```
65                  70                  75                  80

Phe Tyr Gln Lys Leu Arg Gly Gln Phe Pro Asp Ala Val Phe Trp Gln
                85                  90                  95

Glu Ile Ser Glu Ile Phe Arg Gln Leu Gln Lys Gln Ala Ala Glu Ile
            100                 105                 110

Tyr Asn Gln Ser Leu Ile Glu Leu Tyr Tyr Glu Ile Phe Ile Lys Gly
        115                 120                 125

Lys Gly Ile Ala Asn Ala Ser Ser Val Glu His Tyr Leu Ser Asp Val
    130                 135                 140

Cys Tyr Thr Arg Ala Ala Glu Leu Phe Lys Asn Ala Ala Ile Ala Ser
145                 150                 155                 160

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

Asn Met Lys Ser Gly Leu Pro Thr Thr Lys Ser Asp Asn Phe Pro Ile
            180                 185                 190

Pro Leu Val Lys Gln Lys Gly Gly Gln Tyr Thr Gly Phe Glu Ile Ser
        195                 200                 205

Asn His Asn Ser Asp Phe Ile Ile Lys Ile Pro Phe Gly Arg Trp Gln
    210                 215                 220

Val Lys Lys Glu Ile Asp Lys Tyr Arg Pro Trp Glu Lys Phe Asp Phe
225                 230                 235                 240

Glu Gln Val Gln Lys Ser Pro Lys Pro Ile Ser Leu Leu Leu Ser Thr
                245                 250                 255

Gln Arg Arg Lys Arg Asn Lys Gly Trp Ser Lys Asp Glu Gly Thr Glu
            260                 265                 270

Ala Glu Ile Lys Lys Val Met Asn Gly Asp Tyr Gln Thr Ser Tyr Ile
        275                 280                 285
```

```
Glu Val Lys Arg Gly Ser Lys Ile Gly Glu Lys Ser Ala Trp Met Leu
    290                 295                 300

Asn Leu Ser Ile Asp Val Pro Lys Ile Asp Lys Gly Val Asp Pro Ser
305                 310                 315                 320

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

Ile Asn Asn Ala Phe Ser Arg Tyr Ser Ile Ser Asp Asn Asp Leu Phe
            340                 345                 350

His Phe Asn Lys Lys Met Phe Ala Arg Arg Arg Ile Leu Leu Lys Lys
        355                 360                 365

Asn Arg His Lys Arg Ala Gly His Gly Ala Lys Asn Lys Leu Lys Pro
    370                 375                 380

Ile Thr Ile Leu Thr Glu Lys Ser Glu Arg Phe Arg Lys Lys Leu Ile
385                 390                 395                 400

Glu Arg Trp Ala Cys Glu Ile Ala Asp Phe Phe Ile Lys Asn Lys Val
                405                 410                 415

Gly Thr Val Gln Met Glu Asn Leu Glu Ser Met Lys Arg Lys Glu Asp
            420                 425                 430

Ser Tyr Phe Asn Ile Arg Leu Arg Gly Phe Trp Pro Tyr Ala Glu Met
        435                 440                 445

Gln Asn Lys Ile Glu Phe Lys Leu Lys Gln Tyr Gly Ile Glu Ile Arg
    450                 455                 460

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

Leu Asn Asn Tyr Phe Asn Phe Glu Tyr Arg Lys Lys Asn Lys Phe Pro
                485                 490                 495

His Phe Lys Cys Glu Lys Cys Asn Phe Lys Glu Asn Ala Asp Tyr Asn
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500 505 510

Ala Ala Leu Asn Ile Ser Asn Pro Lys Leu Lys Ser Thr Lys Glu Glu
515 520 525

Pro

<210> 4
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<223> Synthetic sequence

<400> 4

Met Glu Arg Gln Lys Val Pro Gln Ile Arg Lys Ile Val Arg Val Val
1 5 10 15

Pro Leu Arg Ile Leu Arg Pro Lys Tyr Ser Asp Val Ile Glu Asn Ala
20 25 30

Leu Lys Lys Phe Lys Glu Lys Gly Asp Asp Thr Asn Thr Asn Asp Phe
35 40 45

Trp Arg Ala Ile Arg Asp Arg Asp Thr Glu Phe Phe Arg Lys Glu Leu
50 55 60

Asn Phe Ser Glu Asp Glu Ile Asn Gln Leu Glu Arg Asp Thr Leu Phe
65 70 75 80

Arg Val Gly Leu Asp Asn Arg Val Leu Phe Ser Tyr Phe Asp Phe Leu
85 90 95

Gln Glu Lys Leu Met Lys Asp Tyr Asn Lys Ile Ile Ser Lys Leu Phe
100 105 110

Ile Asn Arg Gln Ser Lys Ser Ser Phe Glu Asn Asp Leu Thr Asp Glu
115 120 125

Glu Val Glu Glu Leu Ile Glu Lys Asp Val Thr Pro Phe Tyr Gly Ala

```
    130                 135                 140

Tyr Ile Gly Lys Gly Ile Lys Ser Val Ile Lys Ser Asn Leu Gly Gly
145                 150                 155                 160

Lys Phe Ile Lys Ser Val Lys Ile Asp Arg Glu Thr Lys Lys Val Thr
                165                 170                 175

Lys Leu Thr Ala Ile Asn Ile Gly Leu Met Gly Leu Pro Val Ala Lys
            180                 185                 190

Ser Asp Thr Phe Pro Ile Lys Ile Ile Lys Thr Asn Pro Asp Tyr Ile
        195                 200                 205

Thr Phe Gln Lys Ser Thr Lys Glu Asn Leu Gln Lys Ile Glu Asp Tyr
    210                 215                 220

Glu Thr Gly Ile Glu Tyr Gly Asp Leu Leu Val Gln Ile Thr Ile Pro
225                 230                 235                 240

Trp Phe Lys Asn Glu Asn Lys Asp Phe Ser Leu Ile Lys Thr Lys Glu
                245                 250                 255

Ala Ile Glu Tyr Tyr Lys Leu Asn Gly Val Gly Lys Lys Asp Leu Leu
            260                 265                 270

Asn Ile Asn Leu Val Leu Thr Thr Tyr His Ile Arg Lys Lys Lys Ser
        275                 280                 285

Trp Gln Ile Asp Gly Ser Ser Gln Ser Leu Val Arg Glu Met Ala Asn
    290                 295                 300

Gly Glu Leu Glu Glu Lys Trp Lys Ser Phe Phe Asp Thr Phe Ile Lys
305                 310                 315                 320

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

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

```
Glu Arg Ile Lys Arg Leu Tyr Asp Ser Ile Lys Ala Lys Ser Phe Pro
        355                 360                 365

Ser Glu Ile Asn Leu Ile Pro Glu Asn Tyr Lys Trp Lys Leu His Phe
    370                 375                 380

Ser Ile Glu Ile Pro Pro Met Val Asn Asp Ile Asp Ser Asn Leu Tyr
385                 390                 395                 400

Gly Gly Ile Asp Phe Gly Glu Gln Asn Ile Ala Thr Leu Cys Val Lys
                405                 410                 415

Asn Ile Glu Lys Asp Asp Tyr Asp Phe Leu Thr Ile Tyr Gly Asn Asp
            420                 425                 430

Leu Leu Lys His Ala Gln Ala Ser Tyr Ala Arg Arg Arg Ile Met Arg
        435                 440                 445

Val Gln Asp Glu Tyr Lys Ala Arg Gly His Gly Lys Ser Arg Lys Thr
    450                 455                 460

Lys Ala Gln Glu Asp Tyr Ser Glu Arg Met Gln Lys Leu Arg Gln Lys
465                 470                 475                 480

Ile Thr Glu Arg Leu Val Lys Gln Ile Ser Asp Phe Phe Leu Trp Arg
                485                 490                 495

Asn Lys Phe His Met Ala Val Cys Ser Leu Arg Tyr Glu Asp Leu Asn
            500                 505                 510

Thr Leu Tyr Lys Gly Glu Ser Val Lys Ala Lys Arg Met Arg Gln Phe
        515                 520                 525

Ile Asn Lys Gln Gln Leu Phe Asn Gly Ile Glu Arg Lys Leu Lys Asp
    530                 535                 540

Tyr Asn Ser Glu Ile Tyr Val Asn Ser Arg Tyr Pro His Tyr Thr Ser
545                 550                 555                 560

Arg Leu Cys Ser Lys Cys Gly Lys Leu Asn Leu Tyr Phe Asp Phe Leu
```

565 570 575

Lys Phe Arg Thr Lys Asn Ile Ile Ile Arg Lys Asn Pro Asp Gly Ser
580 585 590

Glu Ile Lys Tyr Met Pro Phe Phe Ile Cys Glu Phe Cys Gly Trp Lys
595 600 605

Gln Ala Gly Asp Lys Asn Ala Ser Ala Asn Ile Ala Asp Lys Asp Tyr
610 615 620

Gln Asp Lys Leu Asn Lys Glu Lys Glu Phe Cys Asn Ile Arg Lys Pro
625 630 635 640

Lys Ser Lys Lys Glu Asp Ile Gly Glu Glu Asn Glu Glu Glu Arg Asp
645 650 655

Tyr Ser Arg Arg Phe Asn Arg Asn Ser Phe Ile Tyr Asn Ser Leu Lys
660 665 670

Lys Asp Asn Lys Leu Asn Gln Glu Lys Leu Phe Asp Glu Trp Lys Asn
675 680 685

Gln Leu Lys Arg Lys Ile Asp Gly Arg Asn Lys Phe Glu Pro Lys Glu
690 695 700

Tyr Lys Asp Arg Phe Ser Tyr Leu Phe Ala Tyr Tyr Gln Glu Ile Ile
705 710 715 720

Lys Asn Glu Ser Glu Ser
725

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Met Val Pro Thr Glu Leu Ile Thr Lys Thr Leu Gln Leu Arg Val Ile

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1               5                   10                  15

Arg Pro Leu Tyr Phe Glu Glu Ile Glu Lys Glu Leu Ala Glu Leu Lys
            20                  25                  30

Glu Gln Lys Glu Lys Glu Phe Glu Glu Thr Asn Ser Leu Leu Leu Glu
        35                  40                  45

Ser Lys Lys Ile Asp Ala Lys Ser Leu Lys Lys Leu Lys Arg Lys Ala
    50                  55                  60

Arg Ser Ser Ala Ala Val Glu Phe Trp Lys Ile Ala Lys Glu Lys Tyr
65                  70                  75                  80

Pro Asp Ile Leu Thr Lys Pro Glu Met Glu Phe Ile Phe Ser Glu Met
                85                  90                  95

Gln Lys Met Met Ala Arg Phe Tyr Asn Lys Ser Met Thr Asn Ile Phe
            100                 105                 110

Ile Glu Met Asn Asn Asp Glu Lys Val Asn Pro Leu Ser Leu Ile Ser
        115                 120                 125

Lys Ala Ser Thr Glu Ala Asn Gln Val Ile Lys Cys Ser Ser Ile Ser
    130                 135                 140

Ser Gly Leu Asn Arg Lys Ile Ala Gly Ser Ile Asn Lys Thr Lys Phe
145                 150                 155                 160

Lys Gln Val Arg Asp Gly Leu Ile Ser Leu Pro Thr Ala Arg Thr Glu
                165                 170                 175

Thr Phe Pro Ile Ser Phe Tyr Lys Ser Thr Ala Asn Lys Asp Glu Ile
            180                 185                 190

Pro Ile Ser Lys Ile Asn Leu Pro Ser Glu Glu Glu Ala Asp Leu Thr
        195                 200                 205

Ile Thr Leu Pro Phe Pro Phe Phe Glu Ile Lys Lys Glu Lys Lys Gly
    210                 215                 220
```

```
Gln Lys Ala Tyr Ser Tyr Phe Asn Ile Ile Glu Lys Ser Gly Arg Ser
225                 230                 235                 240

Asn Asn Lys Ile Asp Leu Leu Leu Ser Thr His Arg Arg Gln Arg Arg
                245                 250                 255

Lys Gly Trp Lys Glu Glu Gly Gly Thr Ser Ala Glu Ile Arg Arg Leu
            260                 265                 270

Met Glu Gly Glu Phe Asp Lys Glu Trp Glu Ile Tyr Leu Gly Glu Ala
        275                 280                 285

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

Gly Lys Leu Ser Lys Asp Ile Lys Glu Gln Leu Glu Asp Ile Gln Val
305                 310                 315                 320

Lys Tyr Phe Ser Asp Asn Asn Val Glu Ser Trp Asn Asp Leu Ser Lys
                325                 330                 335

Glu Gln Lys Gln Glu Leu Ser Lys Leu Arg Lys Lys Lys Val Glu Glu
            340                 345                 350

Leu Lys Asp Trp Lys His Val Lys Glu Ile Leu Lys Thr Arg Ala Lys
        355                 360                 365

Ile Gly Trp Val Glu Leu Lys Arg Gly Lys Arg Gln Arg Asp Arg Asn
    370                 375                 380

Lys Trp Phe Val Asn Ile Thr Ile Thr Arg Pro Pro Phe Ile Asn Lys
385                 390                 395                 400

Glu Leu Asp Asp Thr Lys Phe Gly Gly Ile Asp Leu Gly Val Lys Val
                405                 410                 415

Pro Phe Val Cys Ala Val His Gly Ser Pro Ala Arg Leu Ile Ile Lys
            420                 425                 430

Glu Asn Glu Ile Leu Gln Phe Asn Lys Met Val Ser Ala Arg Asn Arg
```

```
        435                 440                 445

Gln Ile Thr Lys Asp Ser Glu Gln Arg Lys Gly Arg Gly Lys Lys Asn
    450                 455                 460

Lys Phe Ile Lys Lys Glu Ile Phe Asn Glu Arg Asn Glu Leu Phe Arg
465                 470                 475                 480

Lys Lys Ile Ile Glu Arg Trp Ala Asn Gln Ile Val Lys Phe Phe Glu
                485                 490                 495

Asp Gln Lys Cys Ala Thr Val Gln Ile Glu Asn Leu Glu Ser Phe Asp
            500                 505                 510

Arg Thr Ser Tyr Lys
        515
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<210> 6
<211> 481
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<220>
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<400> 6

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Met Lys Ser Asp Thr Lys Asp Lys Lys Ile Ile Ile His Gln Thr Lys
1               5                   10                  15

Thr Leu Ser Leu Arg Ile Val Lys Pro Gln Ser Ile Pro Met Glu Glu
            20                  25                  30

Phe Thr Asp Leu Val Arg Tyr His Gln Met Ile Ile Phe Pro Val Tyr
        35                  40                  45

Asn Asn Gly Ala Ile Asp Leu Tyr Lys Lys Leu Phe Lys Ala Lys Ile
    50                  55                  60

Gln Lys Gly Asn Glu Ala Arg Ala Ile Lys Tyr Phe Met Asn Lys Ile
65                  70                  75                  80

Val Tyr Ala Pro Ile Ala Asn Thr Val Lys Asn Ser Tyr Ile Ala Leu
```

```
                85                  90                  95

Gly Tyr Ser Thr Lys Met Gln Ser Ser Phe Ser Gly Lys Arg Leu Trp
            100                 105                 110

Asp Leu Arg Phe Gly Glu Ala Thr Pro Pro Thr Ile Lys Ala Asp Phe
        115                 120                 125

Pro Leu Pro Phe Tyr Asn Gln Ser Gly Phe Lys Val Ser Ser Glu Asn
    130                 135                 140

Gly Glu Phe Ile Ile Gly Ile Pro Phe Gly Gln Tyr Thr Lys Lys Thr
145                 150                 155                 160

Val Ser Asp Ile Glu Lys Lys Thr Ser Phe Ala Trp Asp Lys Phe Thr
                165                 170                 175

Leu Glu Asp Thr Thr Lys Lys Thr Leu Ile Glu Leu Leu Leu Ser Thr
            180                 185                 190

Lys Thr Arg Lys Met Asn Glu Gly Trp Lys Asn Asn Glu Gly Thr Glu
        195                 200                 205

Ala Glu Ile Lys Arg Val Met Asp Gly Thr Tyr Gln Val Thr Ser Leu
    210                 215                 220

Glu Ile Leu Gln Arg Asp Asp Ser Trp Phe Val Asn Phe Asn Ile Ala
225                 230                 235                 240

Tyr Asp Ser Leu Lys Lys Gln Pro Asp Arg Asp Lys Ile Ala Gly Ile
                245                 250                 255

His Met Gly Ile Thr Arg Pro Leu Thr Ala Val Ile Tyr Asn Asn Lys
            260                 265                 270

Tyr Arg Ala Leu Ser Ile Tyr Pro Asn Thr Val Met His Leu Thr Gln
        275                 280                 285

Lys Gln Leu Ala Arg Ile Lys Glu Gln Arg Thr Asn Ser Lys Tyr Ala
    290                 295                 300
```

```
Thr Gly Gly His Gly Arg Asn Ala Lys Val Thr Gly Thr Asp Thr Leu
305                 310                 315                 320

Ser Glu Ala Tyr Arg Gln Arg Arg Lys Lys Ile Ile Glu Asp Trp Ile
                325                 330                 335

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

Leu Glu Asp Ile Ser Asn Thr Asn Ser Phe Phe Ala Ala Arg Glu Gln
        355                 360                 365

Lys Leu Ile Tyr Leu Glu Asp Ile Ser Asn Thr Asn Ser Phe Leu Ser
    370                 375                 380

Thr Tyr Lys Tyr Pro Ile Ser Ala Ile Ser Asp Thr Leu Gln His Lys
385                 390                 395                 400

Leu Glu Glu Lys Ala Ile Gln Val Ile Arg Lys Lys Ala Tyr Tyr Val
                405                 410                 415

Asn Gln Ile Cys Ser Leu Cys Gly His Tyr Asn Lys Gly Phe Thr Tyr
            420                 425                 430

Gln Phe Arg Arg Lys Asn Lys Phe Pro Lys Met Lys Cys Gln Gly Cys
        435                 440                 445

Leu Glu Ala Thr Ser Thr Glu Phe Asn Ala Ala Ala Asn Val Ala Asn
    450                 455                 460

Pro Asp Tyr Glu Lys Leu Leu Ile Lys His Gly Leu Leu Gln Leu Lys
465                 470                 475                 480

Lys
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<211> 358
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<223> Synthetic sequence

<400> 7

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Met Ser Thr Ile Thr Arg Gln Val Arg Leu Ser Pro Thr Pro Glu Gln
1               5                  10                  15


Ser Arg Leu Leu Met Ala His Cys Gln Gln Tyr Ile Ser Thr Val Asn
            20                  25                  30


Val Leu Val Ala Ala Phe Asp Ser Glu Val Leu Thr Gly Lys Val Ser
        35                  40                  45


Thr Lys Asp Phe Arg Ala Ala Leu Pro Ser Ala Val Lys Asn Gln Ala
    50                  55                  60


Leu Arg Asp Ala Gln Ser Val Phe Lys Arg Ser Val Glu Leu Gly Cys
65                  70                  75                  80


Leu Pro Val Leu Lys Lys Pro His Cys Gln Trp Asn Asn Gln Asn Trp
                85                  90                  95


Arg Val Glu Gly Asp Gln Leu Ile Leu Pro Ile Cys Lys Asp Gly Lys
            100                 105                 110


Thr Gln Gln Glu Arg Phe Arg Cys Ala Ala Val Ala Leu Glu Gly Lys
        115                 120                 125


Ala Gly Ile Leu Arg Ile Lys Lys Lys Arg Gly Lys Trp Ile Ala Asp
    130                 135                 140


Leu Thr Val Thr Gln Glu Asp Ala Pro Glu Ser Ser Gly Ser Ala Ile
145                 150                 155                 160


Met Gly Val Asp Leu Gly Ile Lys Val Pro Ala Val Ala His Ile Gly
                165                 170                 175


Gly Lys Gly Thr Arg Phe Phe Gly Asn Gly Arg Ser Gln Arg Ser Met
            180                 185                 190


Arg Arg Arg Phe Tyr Ala Arg Arg Lys Thr Leu Gln Lys Ala Lys Lys
```

```
        195                 200                 205

Leu Arg Ala Val Arg Lys Ser Lys Gly Lys Glu Ala Arg Trp Met Lys
    210                 215                 220

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

Leu Gly Val Gly Thr Ile Lys Ile Glu Ala Leu Gln Gly Ile Arg Lys
                245                 250                 255

Gly Thr Thr Arg Lys Ser Arg Gly Ala Ala Ala Arg Lys Asn Asn Arg
            260                 265                 270

Met Thr Asn Thr Trp Ser Phe Ser Gln Leu Thr Leu Phe Ile Thr Tyr
        275                 280                 285

Lys Ala Gln Arg Gln Gly Ile Thr Val Glu Gln Val Asp Pro Ala Tyr
    290                 295                 300

Thr Ser Gln Asp Cys Pro Ala Cys Arg Ala Arg Asn Gly Ala Gln Asp
305                 310                 315                 320

Arg Thr Tyr Val Cys Ser Glu Cys Gly Trp Arg Gly His Arg Asp Thr
                325                 330                 335

Val Gly Ala Ile Asn Ile Ser Arg Arg Ala Gly Leu Ser Gly His Arg
            340                 345                 350

Arg Gly Ala Thr Gly Ala
        355
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<210> 8
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<213> Artificial sequence

<220>
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<400> 8

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Met Ile Ala Gln Lys Thr Ile Lys Ile Lys Leu Asn Pro Thr Lys Glu
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```
1               5                   10                  15

Gln Ile Ile Lys Leu Asn Ser Ile Ile Glu Glu Tyr Ile Lys Val Ser
            20                  25                  30

Asn Phe Thr Ala Lys Lys Ile Ala Glu Ile Gln Glu Ser Phe Thr Asp
        35                  40                  45

Ser Gly Leu Thr Gln Gly Thr Cys Ser Glu Cys Gly Lys Glu Lys Thr
    50                  55                  60

Tyr Arg Lys Tyr His Leu Leu Lys Lys Asp Asn Lys Leu Phe Cys Ile
65                  70                  75                  80

Thr Cys Tyr Lys Arg Lys Tyr Ser Gln Phe Thr Leu Gln Lys Val Glu
                85                  90                  95

Phe Gln Asn Lys Thr Gly Leu Arg Asn Val Ala Lys Leu Pro Lys Thr
            100                 105                 110

Tyr Tyr Thr Asn Ala Ile Arg Phe Ala Ser Asp Thr Phe Ser Gly Phe
        115                 120                 125

Asp Glu Ile Ile Lys Lys Lys Gln Asn Arg Leu Asn Ser Ile Gln Asn
    130                 135                 140

Arg Leu Asn Phe Trp Lys Glu Leu Leu Tyr Asn Pro Ser Asn Arg Asn
145                 150                 155                 160

Glu Ile Lys Ile Lys Val Val Lys Tyr Ala Pro Lys Thr Asp Thr Arg
                165                 170                 175

Glu His Pro His Tyr Tyr Ser Glu Ala Glu Ile Lys Gly Arg Ile Lys
            180                 185                 190

Arg Leu Glu Lys Gln Leu Lys Lys Phe Lys Met Pro Lys Tyr Pro Glu
        195                 200                 205

Phe Thr Ser Glu Thr Ile Ser Leu Gln Arg Glu Leu Tyr Ser Trp Lys
    210                 215                 220
```

```
Asn Pro Asp Glu Leu Lys Ile Ser Ser Ile Thr Asp Lys Asn Glu Ser
225                 230                 235                 240

Met Asn Tyr Tyr Gly Lys Glu Tyr Leu Lys Arg Tyr Ile Asp Leu Ile
                245                 250                 255

Asn Ser Gln Thr Pro Gln Ile Leu Leu Glu Lys Glu Asn Asn Ser Phe
            260                 265                 270

Tyr Leu Cys Phe Pro Ile Thr Lys Asn Ile Glu Met Pro Lys Ile Asp
        275                 280                 285

Asp Thr Phe Glu Pro Val Gly Ile Asp Trp Gly Ile Thr Arg Asn Ile
    290                 295                 300

Ala Val Val Ser Ile Leu Asp Ser Lys Thr Lys Lys Pro Lys Phe Val
305                 310                 315                 320

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

Ser Leu Arg Lys His Phe Gly Gln Lys Lys Arg Gln Asp Lys Ile Asn
            340                 345                 350

Lys Leu Gly Thr Lys Glu Asp Arg Phe Ile Asp Ser Asn Ile His Lys
        355                 360                 365

Leu Ala Phe Leu Ile Val Lys Glu Ile Arg Asn His Ser Asn Lys Pro
    370                 375                 380

Ile Ile Leu Met Glu Asn Ile Thr Asp Asn Arg Glu Glu Ala Glu Lys
385                 390                 395                 400

Ser Met Arg Gln Asn Ile Leu Leu His Ser Val Lys Ser Arg Leu Gln
                405                 410                 415

Asn Tyr Ile Ala Tyr Lys Ala Leu Trp Asn Asn Ile Pro Thr Asn Leu
            420                 425                 430

Val Lys Pro Glu His Thr Ser Gln Ile Cys Asn Arg Cys Gly His Gln
```

```
        435                 440                 445

Asp Arg Glu Asn Arg Pro Lys Gly Ser Lys Leu Phe Lys Cys Val Lys
    450                 455                 460

Cys Asn Tyr Met Ser Asn Ala Asp Phe Asn Ala Ser Ile Asn Ile Ala
465                 470                 475                 480

Arg Lys Phe Tyr Ile Gly Glu Tyr Glu Pro Phe Tyr Lys Asp Asn Glu
                485                 490                 495

Lys Met Lys Ser Gly Val Asn Ser Ile Ser Met
            500                 505
```

<210> 9
<211> 534
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 9

```
Leu Lys Leu Ser Glu Gln Glu Asn Ile Thr Thr Gly Val Lys Phe Lys
1               5                   10                  15

Leu Lys Leu Asp Lys Glu Thr Ser Glu Gly Leu Asn Asp Tyr Phe Asp
            20                  25                  30

Glu Tyr Gly Lys Ala Ile Asn Phe Ala Ile Lys Val Ile Gln Lys Glu
        35                  40                  45

Leu Ala Glu Asp Arg Phe Ala Gly Lys Val Arg Leu Asp Glu Asn Lys
    50                  55                  60

Lys Pro Leu Leu Asn Glu Asp Gly Lys Lys Ile Trp Asp Phe Pro Asn
65                  70                  75                  80

Glu Phe Cys Ser Cys Gly Lys Gln Val Asn Arg Tyr Val Asn Gly Lys
                85                  90                  95

Ser Leu Cys Gln Glu Cys Tyr Lys Asn Lys Phe Thr Glu Tyr Gly Ile
```

```
            100                 105                 110

Arg Lys Arg Met Tyr Ser Ala Lys Gly Arg Lys Ala Glu Gln Asp Ile
        115                 120                 125

Asn Ile Lys Asn Ser Thr Asn Lys Ile Ser Lys Thr His Phe Asn Tyr
    130                 135                 140

Ala Ile Arg Glu Ala Phe Ile Leu Asp Lys Ser Ile Lys Lys Gln Arg
145                 150                 155                 160

Lys Glu Arg Phe Arg Arg Leu Arg Glu Met Lys Lys Lys Leu Gln Glu
                165                 170                 175

Phe Ile Glu Ile Arg Asp Gly Asn Lys Ile Leu Cys Pro Lys Ile Glu
            180                 185                 190

Lys Gln Arg Val Glu Arg Tyr Ile His Pro Ser Trp Ile Asn Lys Glu
        195                 200                 205

Lys Lys Leu Glu Asp Phe Arg Gly Tyr Ser Met Ser Asn Val Leu Gly
    210                 215                 220

Lys Ile Lys Ile Leu Asp Arg Asn Ile Lys Arg Glu Glu Lys Ser Leu
225                 230                 235                 240

Lys Glu Lys Gly Gln Ile Asn Phe Lys Ala Arg Arg Leu Met Leu Asp
                245                 250                 255

Lys Ser Val Lys Phe Leu Asn Asp Asn Lys Ile Ser Phe Thr Ile Ser
            260                 265                 270

Lys Asn Leu Pro Lys Glu Tyr Glu Leu Asp Leu Pro Glu Lys Glu Lys
        275                 280                 285

Arg Leu Asn Trp Leu Lys Glu Lys Ile Lys Ile Ile Lys Asn Gln Lys
    290                 295                 300

Pro Lys Tyr Ala Tyr Leu Leu Arg Lys Asp Asp Asn Phe Tyr Leu Gln
305                 310                 315                 320
```

```
Tyr Thr Leu Glu Thr Glu Phe Asn Leu Lys Glu Asp Tyr Ser Gly Ile
                325                 330                 335

Val Gly Ile Asp Arg Gly Val Ser His Ile Ala Val Tyr Thr Phe Val
            340                 345                 350

His Asn Asn Gly Lys Asn Glu Arg Pro Leu Phe Leu Asn Ser Ser Glu
        355                 360                 365

Ile Leu Arg Leu Lys Asn Leu Gln Lys Glu Arg Asp Arg Phe Leu Arg
    370                 375                 380

Arg Lys His Asn Lys Lys Arg Lys Lys Ser Asn Met Arg Asn Ile Glu
385                 390                 395                 400

Lys Lys Ile Gln Leu Ile Leu His Asn Tyr Ser Lys Gln Ile Val Asp
                405                 410                 415

Phe Ala Lys Asn Lys Asn Ala Phe Ile Val Phe Glu Lys Leu Glu Lys
            420                 425                 430

Pro Lys Lys Asn Arg Ser Lys Met Ser Lys Lys Ser Gln Tyr Lys Leu
        435                 440                 445

Ser Gln Phe Thr Phe Lys Lys Leu Ser Asp Leu Val Asp Tyr Lys Ala
    450                 455                 460

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

Lys Glu Cys Ser His Cys Gly Glu Lys Val Asn Thr Gln Arg Pro Phe
                485                 490                 495

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

Asn Ala Asp Tyr Asn Ala Ser Ile Asn Ile Ala Lys Lys Gly Leu Asn
        515                 520                 525

Ile Leu Asn Ser Thr Asn
```

530

<210> 10
<211> 537
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 10

Met Glu Glu Ser Ile Ile Thr Gly Val Lys Phe Lys Leu Arg Ile Asp
1 5 10 15

Lys Glu Thr Thr Lys Lys Leu Asn Glu Tyr Phe Asp Glu Tyr Gly Lys
20 25 30

Ala Ile Asn Phe Ala Val Lys Ile Ile Gln Lys Glu Leu Ala Asp Asp
35 40 45

Arg Phe Ala Gly Lys Ala Lys Leu Asp Gln Asn Lys Asn Pro Ile Leu
50 55 60

Asp Glu Asn Gly Lys Lys Ile Tyr Glu Phe Pro Asp Glu Phe Cys Ser
65 70 75 80

Cys Gly Lys Gln Val Asn Lys Tyr Val Asn Asn Lys Pro Phe Cys Gln
85 90 95

Glu Cys Tyr Lys Ile Arg Phe Thr Glu Asn Gly Ile Arg Lys Arg Met
100 105 110

Tyr Ser Ala Lys Gly Arg Lys Ala Glu His Lys Ile Asn Ile Leu Asn
115 120 125

Ser Thr Asn Lys Ile Ser Lys Thr His Phe Asn Tyr Ala Ile Arg Glu
130 135 140

Ala Phe Ile Leu Asp Lys Ser Ile Lys Lys Gln Arg Lys Lys Arg Asn
145 150 155 160

Glu Arg Leu Arg Glu Ser Lys Lys Arg Leu Gln Gln Phe Ile Asp Met

```
                165                 170                 175

Arg Asp Gly Lys Arg Glu Ile Cys Pro Thr Ile Lys Gly Gln Lys Val
            180                 185                 190

Asp Arg Phe Ile His Pro Ser Trp Ile Thr Lys Asp Lys Lys Leu Glu
        195                 200                 205

Asp Phe Arg Gly Tyr Thr Leu Ser Ile Ile Asn Ser Lys Ile Lys Ile
    210                 215                 220

Leu Asp Arg Asn Ile Lys Arg Glu Glu Lys Ser Leu Lys Glu Lys Gly
225                 230                 235                 240

Gln Ile Ile Phe Lys Ala Lys Arg Leu Met Leu Asp Lys Ser Ile Arg
                245                 250                 255

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

Lys Glu Tyr Glu Leu Asp Leu Pro Ser Lys Glu Lys Arg Leu Asn Trp
        275                 280                 285

Leu Lys Glu Lys Ile Glu Ile Ile Lys Asn Gln Lys Pro Lys Tyr Ala
    290                 295                 300

Tyr Leu Leu Arg Lys Asn Ile Glu Ser Glu Lys Lys Pro Asn Tyr Glu
305                 310                 315                 320

Tyr Tyr Leu Gln Tyr Thr Leu Glu Ile Lys Pro Glu Leu Lys Asp Phe
                325                 330                 335

Tyr Asp Gly Ala Ile Gly Ile Asp Arg Gly Ile Asn His Ile Ala Val
            340                 345                 350

Cys Thr Phe Ile Ser Asn Asp Gly Lys Val Thr Pro Pro Lys Phe Phe
        355                 360                 365

Ser Ser Gly Glu Ile Leu Arg Leu Lys Asn Leu Gln Lys Glu Arg Asp
    370                 375                 380
```

```
Arg Phe Leu Leu Arg Lys His Asn Lys Asn Arg Lys Lys Gly Asn Met
385                 390                 395                 400


Arg Val Ile Glu Asn Lys Ile Asn Leu Ile Leu His Arg Tyr Ser Lys
                405                 410                 415


Gln Ile Val Asp Met Ala Lys Lys Leu Asn Ala Ser Ile Val Phe Glu
            420                 425                 430


Glu Leu Gly Arg Ile Gly Lys Ser Arg Thr Lys Met Lys Lys Ser Gln
        435                 440                 445


Arg Tyr Lys Leu Ser Leu Phe Ile Phe Lys Lys Leu Ser Asp Leu Val
    450                 455                 460


Asp Tyr Lys Ser Arg Arg Glu Gly Ile Arg Val Thr Tyr Val Pro Pro
465                 470                 475                 480


Glu Tyr Thr Ser Lys Glu Cys Ser His Cys Gly Glu Lys Val Asn Thr
                485                 490                 495


Gln Arg Pro Phe Asn Gly Asn Tyr Ser Leu Phe Lys Cys Asn Lys Cys
            500                 505                 510


Gly Ile Gln Leu Asn Ser Asp Tyr Asn Ala Ser Ile Asn Ile Ala Lys
        515                 520                 525


Lys Gly Leu Lys Ile Pro Asn Ser Thr
    530                 535


<210>  11
<211>  540
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic sequence

<400>  11

Leu Trp Thr Ile Val Ile Gly Asp Phe Ile Glu Met Pro Lys Gln Asp
1               5                   10                  15
```

```
Leu Val Thr Thr Gly Ile Lys Phe Lys Leu Asp Val Asp Lys Glu Thr
            20                  25                  30

Arg Lys Lys Leu Asp Asp Tyr Phe Asp Glu Tyr Gly Lys Ala Ile Asn
        35                  40                  45

Phe Ala Val Lys Ile Ile Gln Lys Asn Leu Lys Glu Asp Arg Phe Ala
    50                  55                  60

Gly Lys Ile Ala Leu Gly Glu Asp Lys Lys Pro Leu Leu Asp Lys Asp
65                  70                  75                  80

Gly Lys Lys Ile Tyr Asn Tyr Pro Asn Glu Ser Cys Ser Cys Gly Asn
                85                  90                  95

Gln Val Arg Arg Tyr Val Asn Ala Lys Pro Phe Cys Val Asp Cys Tyr
            100                 105                 110

Lys Leu Lys Phe Thr Glu Asn Gly Ile Arg Lys Arg Met Tyr Ser Ala
        115                 120                 125

Arg Gly Arg Lys Ala Asp Ser Asp Ile Asn Ile Lys Asn Ser Thr Asn
    130                 135                 140

Lys Ile Ser Lys Thr His Phe Asn Tyr Ala Ile Arg Glu Gly Phe Ile
145                 150                 155                 160

Leu Asp Lys Ser Leu Lys Lys Gln Arg Ser Lys Arg Ile Lys Lys Leu
                165                 170                 175

Leu Glu Leu Lys Arg Lys Leu Gln Glu Phe Ile Asp Ile Arg Gln Gly
            180                 185                 190

Gln Met Val Leu Cys Pro Lys Ile Lys Asn Gln Arg Val Asp Lys Phe
        195                 200                 205

Ile His Pro Ser Trp Leu Lys Arg Asp Lys Lys Leu Glu Glu Phe Arg
    210                 215                 220

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

```
225                 230                 235                 240

Asn Ile Leu Arg Glu Glu Asp Ser Leu Arg Gln Arg Gly His Val Asn
                245                 250                 255

Phe Lys Ala Asn Arg Ile Met Leu Asp Lys Ser Val Arg Phe Leu Asp
            260                 265                 270

Gly Gly Lys Val Asn Phe Asn Leu Asn Lys Gly Leu Pro Lys Glu Tyr
        275                 280                 285

Leu Leu Asp Leu Pro Lys Lys Glu Asn Lys Leu Ser Trp Leu Asn Glu
    290                 295                 300

Lys Ile Ser Leu Ile Lys Leu Gln Lys Pro Lys Tyr Ala Tyr Leu Leu
305                 310                 315                 320

Arg Arg Glu Gly Ser Phe Phe Ile Gln Tyr Thr Ile Glu Asn Val Pro
                325                 330                 335

Lys Thr Phe Ser Asp Tyr Leu Gly Ala Ile Gly Ile Asp Arg Gly Ile
            340                 345                 350

Ser His Ile Ala Val Cys Thr Phe Val Ser Lys Asn Gly Val Asn Lys
        355                 360                 365

Ala Pro Val Phe Phe Ser Ser Gly Glu Ile Leu Lys Leu Lys Ser Leu
    370                 375                 380

Gln Lys Gln Arg Asp Leu Phe Leu Arg Gly Lys His Asn Lys Ile Arg
385                 390                 395                 400

Lys Lys Ser Asn Met Arg Asn Ile Asp Asn Lys Ile Asn Leu Ile Leu
                405                 410                 415

His Lys Tyr Ser Arg Asn Ile Val Asn Leu Ala Lys Ser Glu Lys Ala
            420                 425                 430

Phe Ile Val Phe Glu Lys Leu Glu Lys Ile Lys Lys Ser Arg Phe Lys
        435                 440                 445
```

```
Met Ser Lys Ser Leu Gln Tyr Lys Leu Ser Gln Phe Thr Phe Lys Lys
    450                 455                 460

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

Asp Tyr Val Pro Pro Glu Tyr Thr Ser Lys Glu Cys Ser His Cys Gly
                485                 490                 495

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

Lys Cys Asn Lys Cys Arg Val Gln Leu Asn Ala Asp Tyr Asn Ala Ser
        515                 520                 525

Ile Asn Ile Ala Lys Lys Ser Leu Asn Ile Ser Asn
    530                 535                 540
```

<210> 12
<211> 542
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 12

```
Met Ser Lys Thr Thr Ile Ser Val Lys Leu Lys Ile Ile Asp Leu Ser
1               5                   10                  15

Ser Glu Lys Lys Glu Phe Leu Asp Asn Tyr Phe Asn Glu Tyr Ala Lys
            20                  25                  30

Ala Thr Thr Phe Cys Gln Leu Arg Ile Arg Arg Leu Leu Arg Asn Thr
        35                  40                  45

His Trp Leu Gly Lys Lys Glu Lys Ser Ser Lys Lys Trp Ile Phe Glu
    50                  55                  60

Ser Gly Ile Cys Asp Leu Cys Gly Glu Asn Lys Glu Leu Val Asn Glu
65                  70                  75                  80
```

```
Asp Arg Asn Ser Gly Glu Pro Ala Lys Ile Cys Lys Arg Cys Tyr Asn
                85                  90                  95

Gly Arg Tyr Gly Asn Gln Met Ile Arg Lys Leu Phe Val Ser Thr Lys
            100                 105                 110

Lys Arg Glu Val Gln Glu Asn Met Asp Ile Arg Arg Val Ala Lys Leu
        115                 120                 125

Asn Asn Thr His Tyr His Arg Ile Pro Glu Glu Ala Phe Asp Met Ile
    130                 135                 140

Lys Ala Ala Asp Thr Ala Glu Lys Arg Arg Lys Lys Asn Val Glu Tyr
145                 150                 155                 160

Asp Lys Lys Arg Gln Met Glu Phe Ile Glu Met Phe Asn Asp Glu Lys
                165                 170                 175

Lys Arg Ala Ala Arg Pro Lys Lys Pro Asn Glu Arg Glu Thr Arg Tyr
            180                 185                 190

Val His Ile Ser Lys Leu Glu Ser Pro Ser Lys Gly Tyr Thr Leu Asn
        195                 200                 205

Gly Ile Lys Arg Lys Ile Asp Gly Met Gly Lys Lys Ile Glu Arg Ala
    210                 215                 220

Glu Lys Gly Leu Ser Arg Lys Lys Ile Phe Gly Tyr Gln Gly Asn Arg
225                 230                 235                 240

Ile Lys Leu Asp Ser Asn Trp Val Arg Phe Asp Leu Ala Glu Ser Glu
                245                 250                 255

Ile Thr Ile Pro Ser Leu Phe Lys Glu Met Lys Leu Arg Ile Thr Gly
            260                 265                 270

Pro Thr Asn Val His Ser Lys Ser Gly Gln Ile Tyr Phe Ala Glu Trp
        275                 280                 285

Phe Glu Arg Ile Asn Lys Gln Pro Asn Asn Tyr Cys Tyr Leu Ile Arg
```

```
    290                 295                 300

Lys Thr Ser Ser Asn Gly Lys Tyr Glu Tyr Tyr Leu Gln Tyr Thr Tyr
305                 310                 315                 320

Glu Ala Glu Val Glu Ala Asn Lys Glu Tyr Ala Gly Cys Leu Gly Val
                325                 330                 335

Asp Ile Gly Cys Ser Lys Leu Ala Ala Ala Val Tyr Tyr Asp Ser Lys
            340                 345                 350

Asn Lys Lys Ala Gln Lys Pro Ile Glu Ile Phe Thr Asn Pro Ile Lys
        355                 360                 365

Lys Ile Lys Met Arg Arg Glu Lys Leu Ile Lys Leu Leu Ser Arg Val
    370                 375                 380

Lys Val Arg His Arg Arg Arg Lys Leu Met Gln Leu Ser Lys Thr Glu
385                 390                 395                 400

Pro Ile Ile Asp Tyr Thr Cys His Lys Thr Ala Arg Lys Ile Val Glu
                405                 410                 415

Met Ala Asn Thr Ala Lys Ala Phe Ile Ser Met Glu Asn Leu Glu Thr
            420                 425                 430

Gly Ile Lys Gln Lys Gln Gln Ala Arg Glu Thr Lys Lys Gln Lys Phe
        435                 440                 445

Tyr Arg Asn Met Phe Leu Phe Arg Lys Leu Ser Lys Leu Ile Glu Tyr
    450                 455                 460

Lys Ala Leu Leu Lys Gly Ile Lys Ile Val Tyr Val Lys Pro Asp Tyr
465                 470                 475                 480

Thr Ser Gln Thr Cys Ser Ser Cys Gly Ala Asp Lys Glu Lys Thr Glu
                485                 490                 495

Arg Pro Ser Gln Ala Ile Phe Arg Cys Leu Asn Pro Thr Cys Arg Tyr
            500                 505                 510
```

Tyr Gln Arg Asp Ile Asn Ala Asp Phe Asn Ala Ala Val Asn Ile Ala
515 520 525

Lys Lys Ala Leu Asn Asn Thr Glu Val Val Thr Thr Leu Leu
530 535 540

<210> 13
<211> 564
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 13

Met Ala Arg Ala Lys Asn Gln Pro Tyr Gln Lys Leu Thr Thr Thr Thr
1 5 10 15

Gly Ile Lys Phe Lys Leu Asp Leu Ser Glu Glu Glu Gly Lys Arg Phe
20 25 30

Asp Glu Tyr Phe Ser Glu Tyr Ala Lys Ala Val Asn Phe Cys Ala Lys
35 40 45

Val Ile Tyr Gln Leu Arg Lys Asn Leu Lys Phe Ala Gly Lys Lys Glu
50 55 60

Leu Ala Ala Lys Glu Trp Lys Phe Glu Ile Ser Asn Cys Asp Phe Cys
65 70 75 80

Asn Lys Gln Lys Glu Ile Tyr Tyr Lys Asn Ile Ala Asn Gly Gln Lys
85 90 95

Val Cys Lys Gly Cys His Arg Thr Asn Phe Ser Asp Asn Ala Ile Arg
100 105 110

Lys Lys Met Ile Pro Val Lys Gly Arg Lys Val Glu Ser Lys Phe Asn
115 120 125

Ile His Asn Thr Thr Lys Lys Ile Ser Gly Thr His Arg His Trp Ala
130 135 140

```
Phe Glu Asp Ala Ala Asp Ile Ile Glu Ser Met Asp Lys Gln Arg Lys
145                 150                 155                 160


Glu Lys Gln Lys Arg Leu Arg Arg Glu Lys Arg Lys Leu Ser Tyr Phe
                165                 170                 175


Phe Glu Leu Phe Gly Asp Pro Ala Lys Arg Tyr Glu Leu Pro Lys Val
            180                 185                 190


Gly Lys Gln Arg Val Pro Arg Tyr Leu His Lys Ile Ile Asp Lys Asp
        195                 200                 205


Ser Leu Thr Lys Lys Arg Gly Tyr Ser Leu Ser Tyr Ile Lys Asn Lys
    210                 215                 220


Ile Lys Ile Ser Glu Arg Asn Ile Glu Arg Asp Glu Lys Ser Leu Arg
225                 230                 235                 240


Lys Ala Ser Pro Ile Ala Phe Gly Ala Arg Lys Ile Lys Met Ser Lys
                245                 250                 255


Leu Asp Pro Lys Arg Ala Phe Asp Leu Glu Asn Asn Val Phe Lys Ile
            260                 265                 270


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


Ala Asn Glu His Gly Lys Lys Phe Tyr Lys Asp Arg Ile Ser Lys Ile
    290                 295                 300


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


Glu Ser Asp Gly Asn Pro Ile Phe Glu Tyr Tyr Val Gln Trp Ser Ile
                325                 330                 335


Asp Thr Glu Thr Pro Ala Ile Thr Ser Tyr Asp Asn Ile Leu Gly Ile
            340                 345                 350


Asp Ala Gly Ile Thr Asn Leu Ala Thr Thr Val Leu Ile Pro Lys Asn
```

```
        355                 360                 365

Leu Ser Ala Glu His Cys Ser His Cys Gly Asn Asn His Val Lys Pro
    370                 375                 380

Ile Phe Thr Lys Phe Phe Ser Gly Lys Glu Leu Lys Ala Ile Lys Ile
385                 390                 395                 400

Lys Ser Arg Lys Gln Lys Tyr Phe Leu Arg Gly Lys His Asn Lys Leu
                405                 410                 415

Val Lys Ile Lys Arg Ile Arg Pro Ile Glu Gln Lys Val Asp Gly Tyr
            420                 425                 430

Cys His Val Val Ser Lys Gln Ile Val Glu Met Ala Lys Glu Arg Asn
        435                 440                 445

Ser Cys Ile Ala Leu Glu Lys Leu Glu Lys Pro Lys Lys Ser Lys Phe
    450                 455                 460

Arg Gln Arg Arg Arg Glu Lys Tyr Ala Val Ser Met Phe Val Phe Lys
465                 470                 475                 480

Lys Leu Ala Thr Phe Ile Lys Tyr Lys Ala Ala Arg Glu Gly Ile Glu
                485                 490                 495

Ile Ile Pro Val Glu Pro Glu Gly Thr Ser Tyr Thr Cys Ser His Cys
            500                 505                 510

Lys Asn Ala Gln Asn Asn Gln Arg Pro Tyr Phe Lys Pro Asn Ser Lys
        515                 520                 525

Lys Ser Trp Thr Ser Met Phe Lys Cys Gly Lys Cys Gly Ile Glu Leu
    530                 535                 540

Asn Ser Asp Tyr Asn Ala Ala Phe Asn Ile Ala Gln Lys Ala Leu Asn
545                 550                 555                 560

Met Thr Ser Ala
```

<210> 14
<211> 610
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 14

```
Met Asp Glu Lys His Phe Phe Cys Ser Tyr Cys Asn Lys Glu Leu Lys
1               5                  10                  15


Ile Ser Lys Asn Leu Ile Asn Lys Ile Ser Lys Gly Ser Ile Arg Glu
            20                  25                  30


Asp Glu Ala Val Ser Lys Ala Ile Ser Ile His Asn Lys Lys Glu His
        35                  40                  45


Ser Leu Ile Leu Gly Ile Lys Phe Lys Leu Phe Ile Glu Asn Lys Leu
    50                  55                  60


Asp Lys Lys Lys Leu Asn Glu Tyr Phe Asp Asn Tyr Ser Lys Ala Val
65                  70                  75                  80


Thr Phe Ala Ala Arg Ile Phe Asp Lys Ile Arg Ser Pro Tyr Lys Phe
                85                  90                  95


Ile Gly Leu Lys Asp Lys Asn Thr Lys Lys Trp Thr Phe Pro Lys Ala
            100                 105                 110


Lys Cys Val Phe Cys Leu Glu Glu Lys Glu Val Ala Tyr Ala Asn Glu
        115                 120                 125


Lys Asp Asn Ser Lys Ile Cys Thr Glu Cys Tyr Leu Lys Glu Phe Gly
    130                 135                 140


Glu Asn Gly Ile Arg Lys Lys Ile Tyr Ser Thr Arg Gly Arg Lys Val
145                 150                 155                 160


Glu Pro Lys Tyr Asn Ile Phe Asn Ser Thr Lys Glu Leu Ser Ser Thr
                165                 170                 175
```

```
His Tyr Asn Tyr Ala Ile Arg Asp Ala Phe Gln Leu Leu Asp Ala Leu
            180                 185                 190

Lys Lys Gln Arg Gln Lys Lys Leu Lys Ser Ile Phe Asn Gln Lys Leu
        195                 200                 205

Arg Leu Lys Glu Phe Glu Asp Ile Phe Ser Asp Pro Gln Lys Arg Ile
    210                 215                 220

Glu Leu Ser Leu Lys Pro His Gln Arg Glu Lys Arg Tyr Ile His Leu
225                 230                 235                 240

Ser Lys Ser Gly Gln Glu Ser Ile Asn Arg Gly Tyr Thr Leu Arg Phe
                245                 250                 255

Val Arg Gly Lys Ile Lys Ser Leu Thr Arg Asn Ile Glu Arg Glu Glu
            260                 265                 270

Lys Ser Leu Arg Lys Lys Thr Pro Ile His Phe Lys Gly Asn Arg Leu
        275                 280                 285

Met Ile Phe Pro Ala Gly Ile Lys Phe Asp Phe Ala Ser Asn Lys Val
    290                 295                 300

Lys Ile Ser Ile Ser Lys Asn Leu Pro Asn Glu Phe Asn Phe Ser Gly
305                 310                 315                 320

Thr Asn Val Lys Asn Glu His Gly Lys Ser Phe Phe Lys Ser Arg Ile
                325                 330                 335

Glu Leu Ile Lys Thr Gln Lys Pro Lys Tyr Ala Tyr Val Leu Arg Lys
            340                 345                 350

Ile Lys Arg Glu Tyr Ser Lys Leu Arg Asn Tyr Glu Ile Glu Lys Ile
        355                 360                 365

Arg Leu Glu Asn Pro Asn Ala Asp Leu Cys Asp Phe Tyr Leu Gln Tyr
    370                 375                 380

Thr Ile Glu Thr Glu Ser Arg Asn Asn Glu Glu Ile Asn Gly Ile Ile
```

385 390 395 400

Gly Ile Asp Arg Gly Ile Thr Asn Leu Ala Cys Leu Val Leu Leu Lys
405 410 415

Lys Gly Asp Lys Lys Pro Ser Gly Val Lys Phe Tyr Lys Gly Asn Lys
420 425 430

Ile Leu Gly Met Lys Ile Ala Tyr Arg Lys His Leu Tyr Leu Leu Lys
435 440 445

Gly Lys Arg Asn Lys Leu Arg Lys Gln Arg Gln Ile Arg Ala Ile Glu
450 455 460

Pro Lys Ile Asn Leu Ile Leu His Gln Ile Ser Lys Asp Ile Val Lys
465 470 475 480

Ile Ala Lys Glu Lys Asn Phe Ala Ile Ala Leu Glu Gln Leu Glu Lys
485 490 495

Pro Lys Lys Ala Arg Phe Ala Gln Arg Lys Lys Glu Lys Tyr Lys Leu
500 505 510

Ala Leu Phe Thr Phe Lys Asn Leu Ser Thr Leu Ile Glu Tyr Lys Ser
515 520 525

Lys Arg Glu Gly Ile Pro Val Ile Tyr Val Pro Pro Glu Lys Thr Ser
530 535 540

Gln Met Cys Ser His Cys Ala Ile Asn Gly Asp Glu His Val Asp Thr
545 550 555 560

Gln Arg Pro Tyr Lys Lys Pro Asn Ala Gln Lys Pro Ser Tyr Ser Leu
565 570 575

Phe Lys Cys Asn Lys Cys Gly Ile Glu Leu Asn Ala Asp Tyr Asn Ala
580 585 590

Ala Phe Asn Ile Ala Gln Lys Gly Leu Lys Thr Leu Met Leu Asn His
595 600 605

Ser His
610

<210> 15
<211> 369
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 15

Met Leu Gln Thr Leu Leu Val Lys Leu Asp Pro Ser Lys Glu Gln Tyr
1 5 10 15

Lys Met Leu Tyr Glu Thr Met Glu Arg Phe Asn Glu Ala Cys Asn Gln
20 25 30

Ile Ala Glu Thr Val Phe Ala Ile His Ser Ala Asn Lys Ile Glu Val
35 40 45

Gln Lys Thr Val Tyr Tyr Pro Ile Arg Glu Lys Phe Gly Leu Ser Ala
50 55 60

Gln Leu Thr Ile Leu Ala Ile Arg Lys Val Cys Glu Ala Tyr Lys Arg
65 70 75 80

Asp Lys Ser Ile Lys Pro Glu Phe Arg Leu Asp Gly Ala Leu Val Tyr
85 90 95

Asp Gln Arg Val Leu Ser Trp Lys Gly Leu Asp Lys Val Ser Leu Val
100 105 110

Thr Leu Gln Gly Arg Gln Ile Ile Pro Ile Lys Phe Gly Asp Tyr Gln
115 120 125

Lys Ala Arg Met Asp Arg Ile Arg Gly Gln Ala Asp Leu Ile Leu Val
130 135 140

Lys Gly Val Phe Tyr Leu Cys Val Val Val Glu Val Ser Glu Glu Ser
145 150 155 160

```
Pro Tyr Asp Pro Lys Gly Val Leu Gly Val Asp Leu Gly Ile Lys Asn
                165                 170                 175

Leu Ala Val Asp Ser Asp Gly Glu Val His Ser Gly Glu Gln Thr Thr
            180                 185                 190

Asn Thr Arg Glu Arg Leu Asp Ser Leu Lys Ala Arg Leu Gln Ser Lys
        195                 200                 205

Gly Thr Lys Ser Ala Lys Arg His Leu Lys Lys Leu Ser Gly Arg Met
    210                 215                 220

Ala Lys Phe Ser Lys Asp Val Asn His Cys Ile Ser Lys Lys Leu Val
225                 230                 235                 240

Ala Lys Ala Lys Gly Thr Leu Met Ser Ile Ala Leu Glu Asp Leu Gln
                245                 250                 255

Gly Ile Arg Asp Arg Val Thr Val Arg Lys Ala Gln Arg Arg Asn Leu
            260                 265                 270

His Thr Trp Asn Phe Gly Leu Leu Arg Met Phe Val Asp Tyr Lys Ala
        275                 280                 285

Lys Ile Ala Gly Val Pro Leu Val Phe Val Asp Pro Arg Asn Thr Ser
    290                 295                 300

Arg Thr Cys Pro Ser Cys Gly His Val Ala Lys Ala Asn Arg Pro Thr
305                 310                 315                 320

Arg Asp Glu Phe Arg Cys Val Ser Cys Gly Phe Ala Gly Ala Ala Asp
                325                 330                 335

His Ile Ala Ala Met Asn Ile Ala Phe Arg Ala Glu Val Ser Gln Pro
            340                 345                 350

Ile Val Thr Arg Phe Phe Val Gln Ser Gln Ala Pro Ser Phe Arg Val
        355                 360                 365

Gly
```

<210> 16
<211> 552
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 16

```
Met Asp Glu Glu Pro Asp Ser Ala Glu Pro Asn Leu Ala Pro Ile Ser
1               5                  10                  15


Val Lys Leu Lys Leu Val Lys Leu Asp Gly Glu Lys Leu Ala Ala Leu
            20                  25                  30


Asn Asp Tyr Phe Asn Glu Tyr Ala Lys Ala Val Asn Phe Cys Glu Leu
        35                  40                  45


Lys Met Gln Lys Ile Arg Lys Asn Leu Val Asn Ile Arg Gly Thr Tyr
    50                  55                  60


Leu Lys Glu Lys Lys Ala Trp Ile Asn Gln Thr Gly Glu Cys Cys Ile
65                  70                  75                  80


Cys Lys Lys Ile Asp Glu Leu Arg Cys Glu Asp Lys Asn Pro Asp Ile
                85                  90                  95


Asn Gly Lys Ile Cys Lys Lys Cys Tyr Asn Gly Arg Tyr Gly Asn Gln
            100                 105                 110


Met Ile Arg Lys Leu Phe Val Ser Thr Asn Lys Arg Ala Val Pro Lys
        115                 120                 125


Ser Leu Asp Ile Arg Lys Val Ala Arg Leu His Asn Thr His Tyr His
    130                 135                 140


Arg Ile Pro Pro Glu Ala Ala Asp Ile Ile Lys Ala Ile Glu Thr Ala
145                 150                 155                 160


Glu Arg Lys Arg Arg Asn Arg Ile Leu Phe Asp Glu Arg Arg Tyr Asn
```

```
                165                 170                 175

Glu Leu Lys Asp Ala Leu Glu Asn Glu Glu Lys Arg Val Ala Arg Pro
            180                 185                 190

Lys Lys Pro Lys Glu Arg Glu Val Arg Tyr Val Pro Ile Ser Lys Lys
        195                 200                 205

Asp Thr Pro Ser Lys Gly Tyr Thr Met Asn Ala Leu Val Arg Lys Val
    210                 215                 220

Ser Gly Met Ala Lys Lys Ile Glu Arg Ala Lys Arg Asn Leu Asn Lys
225                 230                 235                 240

Arg Lys Lys Ile Glu Tyr Leu Gly Arg Arg Ile Leu Leu Asp Lys Asn
                245                 250                 255

Trp Val Arg Phe Asp Phe Asp Lys Ser Glu Ile Ser Ile Pro Thr Met
            260                 265                 270

Lys Glu Phe Phe Gly Glu Met Arg Phe Glu Ile Thr Gly Pro Ser Asn
        275                 280                 285

Val Met Ser Pro Asn Gly Arg Glu Tyr Phe Thr Lys Trp Phe Asp Arg
    290                 295                 300

Ile Lys Ala Gln Pro Asp Asn Tyr Cys Tyr Leu Leu Arg Lys Glu Ser
305                 310                 315                 320

Glu Asp Glu Thr Asp Phe Tyr Leu Gln Tyr Thr Trp Arg Pro Asp Ala
                325                 330                 335

His Pro Lys Lys Asp Tyr Thr Gly Cys Leu Gly Ile Asp Ile Gly Gly
            340                 345                 350

Ser Lys Leu Ala Ser Ala Val Tyr Phe Asp Ala Asp Lys Asn Arg Ala
        355                 360                 365

Lys Gln Pro Ile Gln Ile Phe Ser Asn Pro Ile Gly Lys Trp Lys Thr
    370                 375                 380
```

```
Lys Arg Gln Lys Val Ile Lys Val Leu Ser Lys Ala Ala Val Arg His
385                 390                 395                 400

Lys Thr Lys Lys Leu Glu Ser Leu Arg Asn Ile Glu Pro Arg Ile Asp
                405                 410                 415

Val His Cys His Arg Ile Ala Arg Lys Ile Val Gly Met Ala Leu Ala
            420                 425                 430

Ala Asn Ala Phe Ile Ser Met Glu Asn Leu Glu Gly Gly Ile Arg Glu
        435                 440                 445

Lys Gln Lys Ala Lys Glu Thr Lys Lys Gln Lys Phe Ser Arg Asn Met
    450                 455                 460

Phe Val Phe Arg Lys Leu Ser Lys Leu Ile Glu Tyr Lys Ala Leu Met
465                 470                 475                 480

Glu Gly Val Lys Val Val Tyr Ile Val Pro Asp Tyr Thr Ser Gln Leu
                485                 490                 495

Cys Ser Ser Cys Gly Thr Asn Asn Thr Lys Arg Pro Lys Gln Ala Ile
            500                 505                 510

Phe Met Cys Gln Asn Thr Glu Cys Arg Tyr Phe Gly Lys Asn Ile Asn
        515                 520                 525

Ala Asp Phe Asn Ala Ala Ile Asn Ile Ala Lys Lys Ala Leu Asn Arg
    530                 535                 540

Lys Asp Ile Val Arg Glu Leu Ser
545                 550
```

<210> 17
<211> 534
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 17

```
Met Glu Lys Asn Asn Ser Glu Gln Thr Ser Ile Thr Thr Gly Ile Lys
1               5                  10                  15

Phe Lys Leu Lys Leu Asp Lys Glu Thr Lys Glu Lys Leu Asn Asn Tyr
            20                  25                  30

Phe Asp Glu Tyr Gly Lys Ala Ile Asn Phe Ala Val Arg Ile Ile Gln
        35                  40                  45

Met Gln Leu Asn Asp Asp Arg Leu Ala Gly Lys Tyr Lys Arg Asp Glu
    50                  55                  60

Lys Gly Lys Pro Ile Leu Gly Glu Asp Gly Lys Lys Ile Leu Glu Ile
65                  70                  75                  80

Pro Asn Asp Phe Cys Ser Cys Gly Asn Gln Val Asn His Tyr Val Asn
                85                  90                  95

Gly Val Ser Phe Cys Gln Glu Cys Tyr Lys Lys Arg Phe Ser Glu Asn
            100                 105                 110

Gly Ile Arg Lys Arg Met Tyr Ser Ala Lys Gly Arg Lys Ala Glu Gln
        115                 120                 125

Asp Ile Asn Ile Lys Asn Ser Thr Asn Lys Ile Ser Lys Thr His Phe
    130                 135                 140

Asn Tyr Ala Ile Arg Glu Ala Phe Asn Leu Asp Lys Ser Ile Lys Lys
145                 150                 155                 160

Gln Arg Glu Lys Arg Phe Lys Lys Leu Lys Asp Met Lys Arg Lys Leu
                165                 170                 175

Gln Glu Phe Leu Glu Ile Arg Asp Gly Lys Arg Val Ile Cys Pro Lys
            180                 185                 190

Ile Glu Lys Gln Lys Val Glu Arg Tyr Ile His Pro Ser Trp Ile Asn
        195                 200                 205

Lys Glu Lys Lys Leu Glu Glu Phe Arg Gly Tyr Ser Leu Ser Ile Val
```

```
    210                 215                 220

Asn Ser Lys Ile Lys Ser Phe Asp Arg Asn Ile Gln Arg Glu Glu Lys
225                 230                 235                 240

Ser Leu Lys Glu Lys Gly Gln Ile Asn Phe Lys Ala Gln Arg Leu Met
                245                 250                 255

Leu Asp Lys Ser Val Lys Phe Leu Lys Asp Asn Lys Val Ser Phe Thr
            260                 265                 270

Ile Ser Lys Glu Leu Pro Lys Thr Phe Glu Leu Asp Leu Pro Lys Lys
        275                 280                 285

Glu Lys Lys Leu Asn Trp Leu Asn Glu Lys Leu Glu Ile Ile Lys Asn
    290                 295                 300

Gln Lys Pro Lys Tyr Ala Tyr Leu Leu Arg Lys Glu Asn Asn Ile Phe
305                 310                 315                 320

Leu Gln Tyr Thr Leu Asp Ser Ile Pro Glu Ile His Ser Glu Tyr Ser
                325                 330                 335

Gly Ala Val Gly Ile Asp Arg Gly Val Ser His Ile Ala Val Tyr Thr
            340                 345                 350

Phe Leu Asp Lys Asp Gly Lys Asn Glu Arg Pro Phe Phe Leu Ser Ser
        355                 360                 365

Ser Gly Ile Leu Arg Leu Lys Asn Leu Gln Lys Glu Arg Asp Lys Phe
    370                 375                 380

Leu Arg Lys Lys His Asn Lys Ile Arg Lys Lys Gly Asn Met Arg Asn
385                 390                 395                 400

Ile Glu Gln Lys Ile Asn Leu Ile Leu His Glu Tyr Ser Lys Gln Ile
                405                 410                 415

Val Asn Phe Ala Lys Asp Lys Asn Ala Phe Ile Val Phe Glu Leu Leu
            420                 425                 430
```

Glu Lys Pro Lys Lys Ser Arg Glu Arg Met Ser Lys Lys Ile Gln Tyr
435 440 445

Lys Leu Ser Gln Phe Thr Phe Lys Lys Leu Ser Asp Leu Val Asp Tyr
450 455 460

Lys Ala Lys Arg Glu Gly Ile Lys Val Ile Tyr Val Glu Pro Ala Tyr
465 470 475 480

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

Pro Phe Asn Gly Asn Phe Ser Leu Phe Lys Cys Asn Lys Cys Gly Ile
500 505 510

Val Leu Asn Ser Asp Tyr Asn Ala Ser Leu Asn Ile Ala Arg Lys Gly
515 520 525

Leu Asn Ile Ser Ala Asn
530

<210> 18
<211> 577
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 18

Met Ala Glu Glu Lys Phe Phe Phe Cys Glu Lys Cys Asn Lys Asp Ile
1 5 10 15

Lys Ile Pro Lys Asn Tyr Ile Asn Lys Gln Gly Ala Glu Glu Lys Ala
20 25 30

Arg Ala Lys His Glu His Arg Val His Ala Leu Ile Leu Gly Ile Lys
35 40 45

Phe Lys Ile Tyr Pro Lys Lys Glu Asp Ile Ser Lys Leu Asn Asp Tyr
50 55 60

```
Phe Asp Glu Tyr Ala Lys Ala Val Thr Phe Thr Ala Lys Ile Val Asp
65                  70                  75                  80

Lys Leu Lys Ala Pro Phe Leu Phe Ala Gly Lys Arg Asp Lys Asp Thr
                85                  90                  95

Ser Lys Lys Lys Trp Val Phe Pro Val Asp Lys Cys Ser Phe Cys Lys
            100                 105                 110

Glu Lys Thr Glu Ile Asn Tyr Arg Thr Lys Gln Gly Lys Asn Ile Cys
        115                 120                 125

Asn Ser Cys Tyr Leu Thr Glu Phe Gly Glu Gln Gly Leu Leu Glu Lys
    130                 135                 140

Ile Tyr Ala Thr Lys Gly Arg Lys Val Ser Ser Ser Phe Asn Leu Phe
145                 150                 155                 160

Asn Ser Thr Lys Lys Leu Thr Gly Thr His Asn Asn Tyr Val Val Lys
                165                 170                 175

Glu Ser Leu Gln Leu Leu Asp Ala Leu Lys Lys Gln Arg Ser Lys Arg
            180                 185                 190

Leu Lys Lys Leu Ser Asn Thr Arg Arg Lys Leu Lys Gln Phe Glu Glu
        195                 200                 205

Met Phe Glu Lys Glu Asp Lys Arg Phe Gln Leu Pro Leu Lys Glu Lys
    210                 215                 220

Gln Arg Glu Leu Arg Phe Ile His Val Ser Gln Lys Asp Arg Ala Thr
225                 230                 235                 240

Glu Phe Lys Gly Tyr Thr Met Asn Lys Ile Lys Ser Lys Ile Lys Val
                245                 250                 255

Leu Arg Arg Asn Ile Glu Arg Glu Gln Arg Ser Leu Asn Arg Lys Ser
            260                 265                 270

Pro Val Phe Phe Arg Gly Thr Arg Ile Arg Leu Ser Pro Ser Val Gln
```

```
        275                 280                 285

Phe Asp Asp Lys Asp Asn Lys Ile Lys Leu Thr Leu Ser Lys Glu Leu
    290                 295                 300

Pro Lys Glu Tyr Ser Phe Ser Gly Leu Asn Val Ala Asn Glu His Gly
305                 310                 315                 320

Arg Lys Phe Phe Ala Glu Lys Leu Lys Leu Ile Lys Glu Asn Lys Ser
                325                 330                 335

Lys Tyr Ala Tyr Leu Leu Arg Arg Gln Val Asn Lys Asn Asn Lys Lys
            340                 345                 350

Pro Ile Tyr Asp Tyr Tyr Leu Gln Tyr Thr Val Glu Phe Leu Pro Asn
        355                 360                 365

Ile Ile Thr Asn Tyr Asn Gly Ile Leu Gly Ile Asp Arg Gly Ile Asn
    370                 375                 380

Thr Leu Ala Cys Ile Val Leu Leu Glu Asn Lys Lys Glu Lys Pro Ser
385                 390                 395                 400

Phe Val Lys Phe Phe Ser Gly Lys Gly Ile Leu Asn Leu Lys Asn Lys
                405                 410                 415

Arg Arg Lys Gln Leu Tyr Phe Leu Lys Gly Val His Asn Lys Tyr Arg
            420                 425                 430

Lys Gln Gln Lys Ile Arg Pro Ile Glu Pro Arg Ile Asp Gln Ile Leu
        435                 440                 445

His Asp Ile Ser Lys Gln Ile Ile Asp Leu Ala Lys Glu Lys Arg Val
    450                 455                 460

Ala Ile Ser Leu Glu Gln Leu Glu Lys Pro Gln Lys Pro Lys Phe Arg
465                 470                 475                 480

Gln Ser Arg Lys Ala Lys Tyr Lys Leu Ser Gln Phe Asn Phe Lys Thr
                485                 490                 495
```

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

Ile Tyr Ile Ala Pro Glu Met Thr Ser Gln Asn Cys Ser Arg Cys Ala
515 520 525

Met Lys Asn Asp Leu His Val Asn Thr Gln Arg Pro Tyr Lys Asn Thr
530 535 540

Ser Ser Leu Phe Lys Cys Asn Lys Cys Gly Val Glu Leu Asn Ala Asp
545 550 555 560

Tyr Asn Ala Ala Phe Asn Ile Ala Gln Lys Gly Leu Lys Ile Leu Asn
565 570 575

Ser

<210> 19
<211> 613
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 19

Met Ile Ser Leu Lys Leu Lys Leu Leu Pro Asp Glu Glu Gln Lys Lys
1 5 10 15

Leu Leu Asp Glu Met Phe Trp Lys Trp Ala Ser Ile Cys Thr Arg Val
20 25 30

Gly Phe Gly Arg Ala Asp Lys Glu Asp Leu Lys Pro Pro Lys Asp Ala
35 40 45

Glu Gly Val Trp Phe Ser Leu Thr Gln Leu Asn Gln Ala Asn Thr Asp
50 55 60

Ile Asn Asp Leu Arg Glu Ala Met Lys His Gln Lys His Arg Leu Glu
65 70 75 80

```
Tyr Glu Lys Asn Arg Leu Glu Ala Gln Arg Asp Asp Thr Gln Asp Ala
                85                  90                  95

Leu Lys Asn Pro Asp Arg Arg Glu Ile Ser Thr Lys Arg Lys Asp Leu
            100                 105                 110

Phe Arg Pro Lys Ala Ser Val Glu Lys Gly Phe Leu Lys Leu Lys Tyr
        115                 120                 125

His Gln Glu Arg Tyr Trp Val Arg Arg Leu Lys Glu Ile Asn Lys Leu
    130                 135                 140

Ile Glu Arg Lys Thr Lys Thr Leu Ile Lys Ile Glu Lys Gly Arg Ile
145                 150                 155                 160

Lys Phe Lys Ala Thr Arg Ile Thr Leu His Gln Gly Ser Phe Lys Ile
                165                 170                 175

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

Asn Gln Ile Asp Ala Pro Phe Val Val Val Pro Glu Gln Pro Ile Cys
        195                 200                 205

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

Phe Leu Ala Tyr Ser Val Asn Ala Met Leu Phe Gly Leu Ser Arg Ser
225                 230                 235                 240

Glu Glu Met Leu Leu Lys Ala Lys Arg Pro Glu Lys Ile Lys Lys Lys
                245                 250                 255

Glu Glu Lys Leu Ala Lys Lys Gln Ser Ala Phe Glu Asn Lys Lys Lys
            260                 265                 270

Glu Leu Gln Lys Leu Leu Gly Arg Glu Leu Thr Gln Gln Glu Glu Ala
        275                 280                 285

Ile Ile Glu Glu Thr Arg Asn Gln Phe Phe Gln Asp Phe Glu Val Lys
```

```
    290                 295                 300

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

Lys Gln Lys Asn Asp Phe Leu Lys Val Asn Lys Tyr Pro Ile Leu Leu
                325                 330                 335

Arg Lys Pro Leu Lys Lys Ala Lys Ser Lys Lys Ile Asn Asn Leu Ser
            340                 345                 350

Pro Ser Glu Trp Lys Tyr Tyr Leu Gln Phe Gly Val Lys Pro Leu Leu
        355                 360                 365

Lys Gln Lys Ser Arg Arg Lys Ser Arg Asn Val Leu Gly Ile Asp Arg
    370                 375                 380

Gly Leu Lys His Leu Leu Ala Val Thr Val Leu Glu Pro Asp Lys Lys
385                 390                 395                 400

Thr Phe Val Trp Asn Lys Leu Tyr Pro Asn Pro Ile Thr Gly Trp Lys
                405                 410                 415

Trp Arg Arg Arg Lys Leu Leu Arg Ser Leu Lys Arg Leu Lys Arg Arg
            420                 425                 430

Ile Lys Ser Gln Lys His Glu Thr Ile His Glu Asn Gln Thr Arg Lys
        435                 440                 445

Lys Leu Lys Ser Leu Gln Gly Arg Ile Asp Asp Leu Leu His Asn Ile
    450                 455                 460

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

Val Glu Asp Leu Gln Ser Met Arg Gln His Gly Arg Ser Lys Gly Asn
                485                 490                 495

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

```
Val Met Gln Leu Ile Lys Tyr Lys Ala Gly Ile Glu Gly Ile Gln Ile
        515                 520                 525

Tyr Asp Val Lys Pro Ala Gly Thr Ser Gln Asn Cys Ala Tyr Cys Leu
    530                 535                 540

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

Lys Ile Gly Val Cys Leu Asn Pro Asn Cys Gln Asn His Lys Lys Gln
                565                 570                 575

Ile Asp Ala Asp Leu Asn Ala Ala Arg Val Ile Ala Ser Cys Tyr Ala
            580                 585                 590

Leu Lys Ile Asn Asp Ser Gln Pro Phe Gly Thr Arg Lys Arg Phe Lys
        595                 600                 605

Lys Arg Thr Thr Asn
    610
```

<210> 20
<211> 615
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 20

```
Met Glu Thr Leu Ser Leu Lys Leu Lys Leu Asn Pro Ser Lys Glu Gln
1               5                   10                  15

Leu Leu Val Leu Asp Lys Met Phe Trp Lys Trp Ala Ser Ile Cys Thr
            20                  25                  30

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

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

```
Thr Asp Val Asn Asp Leu Arg Lys Ala Met Gln His Gln Gly Lys Arg
65                  70                  75                  80

Ile Glu Tyr Glu Leu Asp Lys Val Glu Asn Arg Arg Asn Glu Ile Gln
                85                  90                  95

Glu Met Leu Glu Lys Pro Asp Arg Arg Asp Ile Ser Pro Asn Arg Lys
            100                 105                 110

Asp Leu Phe Arg Pro Lys Ala Ala Val Glu Lys Gly Tyr Leu Lys Leu
        115                 120                 125

Lys Tyr His Lys Leu Gly Tyr Trp Ser Lys Glu Leu Lys Thr Ala Asn
    130                 135                 140

Lys Leu Ile Glu Arg Lys Arg Lys Thr Leu Ala Lys Ile Asp Ala Gly
145                 150                 155                 160

Lys Met Lys Phe Lys Pro Thr Arg Ile Ser Leu His Thr Asn Ser Phe
                165                 170                 175

Arg Ile Lys Phe Gly Glu Glu Pro Lys Ile Ala Leu Ser Thr Thr Ser
            180                 185                 190

Lys His Glu Lys Ile Glu Leu Pro Leu Ile Thr Ser Leu Gln Arg Pro
        195                 200                 205

Leu Lys Thr Ser Cys Ala Lys Lys Ser Lys Thr Tyr Leu Asp Ala Ala
    210                 215                 220

Ile Leu Asn Phe Leu Ala Tyr Ser Thr Asn Ala Ala Leu Phe Gly Leu
225                 230                 235                 240

Ser Arg Ser Glu Glu Met Leu Leu Lys Ala Lys Lys Pro Glu Lys Ile
                245                 250                 255

Glu Lys Arg Asp Arg Lys Leu Ala Thr Lys Arg Glu Ser Phe Asp Lys
            260                 265                 270

Lys Leu Lys Thr Leu Glu Lys Leu Leu Glu Arg Lys Leu Ser Glu Lys
```

```
        275                 280                 285

Glu Lys Ser Val Phe Lys Arg Lys Gln Thr Glu Phe Phe Asp Lys Phe
    290                 295                 300

Cys Ile Thr Leu Asp Glu Thr Tyr Val Glu Ala Leu His Arg Ile Ala
305                 310                 315                 320

Glu Glu Leu Val Ser Lys Asn Lys Tyr Leu Glu Ile Lys Lys Tyr Pro
                325                 330                 335

Val Leu Leu Arg Lys Pro Glu Ser Arg Leu Arg Ser Lys Lys Leu Lys
            340                 345                 350

Asn Leu Lys Pro Glu Asp Trp Thr Tyr Tyr Ile Gln Phe Gly Phe Gln
        355                 360                 365

Pro Leu Leu Asp Thr Pro Lys Pro Ile Lys Thr Lys Thr Val Leu Gly
    370                 375                 380

Ile Asp Arg Gly Val Arg His Leu Leu Ala Val Ser Ile Phe Asp Pro
385                 390                 395                 400

Arg Thr Lys Thr Phe Thr Phe Asn Arg Leu Tyr Ser Asn Pro Ile Val
                405                 410                 415

Asp Trp Lys Trp Arg Arg Arg Lys Leu Leu Arg Ser Ile Lys Arg Leu
            420                 425                 430

Lys Arg Arg Leu Lys Ser Glu Lys His Val His Leu His Glu Asn Gln
        435                 440                 445

Phe Lys Ala Lys Leu Arg Ser Leu Glu Gly Arg Ile Glu Asp His Phe
    450                 455                 460

His Asn Leu Ser Lys Glu Ile Val Asp Leu Ala Lys Glu Asn Asn Ser
465                 470                 475                 480

Val Ile Val Val Glu Asn Leu Gly Gly Met Arg Gln His Gly Arg Gly
                485                 490                 495
```

```
Arg Gly Lys Trp Leu Lys Ala Leu Asn Tyr Ala Leu Ser His Phe Asp
            500                 505                 510

Tyr Ala Lys Val Met Gln Leu Ile Lys Tyr Lys Ala Glu Leu Ala Gly
        515                 520                 525

Val Phe Val Tyr Asp Val Ala Pro Ala Gly Thr Ser Ile Asn Cys Ala
    530                 535                 540

Tyr Cys Leu Leu Asn Asp Lys Asp Ala Ser Asn Tyr Thr Arg Gly Lys
545                 550                 555                 560

Val Ile Asn Gly Lys Lys Asn Thr Lys Ile Gly Glu Cys Lys Thr Cys
                565                 570                 575

Lys Lys Glu Phe Asp Ala Asp Leu Asn Ala Ala Arg Val Ile Ala Leu
            580                 585                 590

Cys Tyr Glu Lys Arg Leu Asn Asp Pro Gln Pro Phe Gly Thr Arg Lys
        595                 600                 605

Gln Phe Lys Pro Lys Lys Pro
    610                 615
```

<210> 21
<211> 775
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 21

```
Met Lys Ala Leu Lys Leu Gln Leu Ile Pro Thr Arg Lys Gln Tyr Lys
1               5                   10                  15

Ile Leu Asp Glu Met Phe Trp Lys Trp Ala Ser Leu Ala Asn Arg Val
            20                  25                  30

Ser Gln Lys Gly Glu Ser Lys Glu Thr Leu Ala Pro Lys Lys Asp Ile
        35                  40                  45
```

```
Gln Lys Ile Gln Phe Asn Ala Thr Gln Leu Asn Gln Ile Glu Lys Asp
    50                  55                  60

Ile Lys Asp Leu Arg Gly Ala Met Lys Glu Gln Gln Lys Gln Lys Glu
65                  70                  75                  80

Arg Leu Leu Leu Gln Ile Gln Glu Arg Arg Ser Thr Ile Ser Glu Met
                85                  90                  95

Leu Asn Asp Asp Asn Asn Lys Glu Arg Asp Pro His Arg Pro Leu Asn
            100                 105                 110

Phe Arg Pro Lys Gly Trp Arg Lys Phe His Thr Ser Lys His Trp Val
        115                 120                 125

Gly Glu Leu Ser Lys Ile Leu Arg Gln Glu Asp Arg Val Lys Lys Thr
    130                 135                 140

Ile Glu Arg Ile Val Ala Gly Lys Ile Ser Phe Lys Pro Lys Arg Ile
145                 150                 155                 160

Gly Ile Trp Ser Ser Asn Tyr Lys Ile Asn Phe Phe Lys Arg Lys Ile
                165                 170                 175

Ser Ile Asn Pro Leu Asn Ser Lys Gly Phe Glu Leu Thr Leu Met Thr
            180                 185                 190

Glu Pro Thr Gln Asp Leu Ile Gly Lys Asn Gly Gly Lys Ser Val Leu
        195                 200                 205

Asn Asn Lys Arg Tyr Leu Asp Asp Ser Ile Lys Ser Leu Leu Met Phe
    210                 215                 220

Ala Leu His Ser Arg Phe Phe Gly Leu Asn Asn Thr Asp Thr Tyr Leu
225                 230                 235                 240

Leu Gly Gly Lys Ile Asn Pro Ser Leu Val Lys Tyr Tyr Lys Lys Asn
                245                 250                 255

Gln Asp Met Gly Glu Phe Gly Arg Glu Ile Val Glu Lys Phe Glu Arg
```

```
            260                 265                 270

Lys Leu Lys Gln Glu Ile Asn Glu Gln Gln Lys Lys Ile Ile Met Ser
        275                 280                 285

Gln Ile Lys Glu Gln Tyr Ser Asn Arg Asp Ser Ala Phe Asn Lys Asp
    290                 295                 300

Tyr Leu Gly Leu Ile Asn Glu Phe Ser Glu Val Phe Asn Gln Arg Lys
305                 310                 315                 320

Ser Glu Arg Ala Glu Tyr Leu Leu Asp Ser Phe Glu Asp Lys Ile Lys
                325                 330                 335

Gln Ile Lys Gln Glu Ile Gly Glu Ser Leu Asn Ile Ser Asp Trp Asp
            340                 345                 350

Phe Leu Ile Asp Glu Ala Lys Lys Ala Tyr Gly Tyr Glu Glu Gly Phe
        355                 360                 365

Thr Glu Tyr Val Tyr Ser Lys Arg Tyr Leu Glu Ile Leu Asn Lys Ile
    370                 375                 380

Val Lys Ala Val Leu Ile Thr Asp Ile Tyr Phe Asp Leu Arg Lys Tyr
385                 390                 395                 400

Pro Ile Leu Leu Arg Lys Pro Leu Asp Lys Ile Lys Lys Ile Ser Asn
                405                 410                 415

Leu Lys Pro Asp Glu Trp Ser Tyr Tyr Ile Gln Phe Gly Tyr Asp Ser
            420                 425                 430

Ile Asn Pro Val Gln Leu Met Ser Thr Asp Lys Phe Leu Gly Ile Asp
        435                 440                 445

Arg Gly Leu Thr His Leu Leu Ala Tyr Ser Val Phe Asp Lys Glu Lys
    450                 455                 460

Lys Glu Phe Ile Ile Asn Gln Leu Glu Pro Asn Pro Ile Met Gly Trp
465                 470                 475                 480
```

```
Lys Trp Lys Leu Arg Lys Val Lys Arg Ser Leu Gln His Leu Glu Arg
                485                 490                 495

Arg Ile Arg Ala Gln Lys Met Val Lys Leu Pro Glu Asn Gln Met Lys
            500                 505                 510

Lys Lys Leu Lys Ser Ile Glu Pro Lys Ile Glu Val His Tyr His Asn
        515                 520                 525

Ile Ser Arg Lys Ile Val Asn Leu Ala Lys Asp Tyr Asn Ala Ser Ile
    530                 535                 540

Val Val Glu Ser Leu Glu Gly Gly Gly Leu Lys Gln His Gly Arg Lys
545                 550                 555                 560

Lys Asn Ala Arg Asn Arg Ser Leu Asn Tyr Ala Leu Ser Leu Phe Asp
                565                 570                 575

Tyr Gly Lys Ile Ala Ser Leu Ile Lys Tyr Lys Ala Asp Leu Glu Gly
            580                 585                 590

Val Pro Met Tyr Glu Val Leu Pro Ala Tyr Thr Ser Gln Gln Cys Ala
        595                 600                 605

Lys Cys Val Leu Glu Lys Gly Ser Phe Val Asp Pro Glu Ile Ile Gly
    610                 615                 620

Tyr Val Glu Asp Ile Gly Ile Lys Gly Ser Leu Leu Asp Ser Leu Phe
625                 630                 635                 640

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

Lys Ile Glu Leu Ser Ala Arg Asp Asn His Asn Lys Glu Ile Asn Leu
            660                 665                 670

Ile Leu Lys Tyr Asn Phe Lys Gly Leu Val Ile Val Arg Gly Gln Asp
        675                 680                 685

Lys Glu Glu Ile Ala Glu His Pro Ile Lys Glu Ile Asn Gly Lys Phe
```

690 695 700

Ala Ile Leu Asp Phe Val Tyr Lys Arg Gly Lys Glu Lys Val Gly Lys
705 710 715 720

Lys Gly Asn Gln Lys Val Arg Tyr Thr Gly Asn Lys Lys Val Gly Tyr
725 730 735

Cys Ser Lys His Gly Gln Val Asp Ala Asp Leu Asn Ala Ser Arg Val
740 745 750

Ile Ala Leu Cys Lys Tyr Leu Asp Ile Asn Asp Pro Ile Leu Phe Gly
755 760 765

Glu Gln Arg Lys Ser Phe Lys
770 775

<210> 22
<211> 777
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 22

Met Val Thr Arg Ala Ile Lys Leu Lys Leu Asp Pro Thr Lys Asn Gln
1 5 10 15

Tyr Lys Leu Leu Asn Glu Met Phe Trp Lys Trp Ala Ser Leu Ala Asn
20 25 30

Arg Phe Ser Gln Lys Gly Ala Ser Lys Glu Thr Leu Ala Pro Lys Asp
35 40 45

Gly Thr Gln Lys Ile Gln Phe Asn Ala Thr Gln Leu Asn Gln Ile Lys
50 55 60

Lys Asp Val Asp Asp Leu Arg Gly Ala Met Glu Lys Gln Gly Lys Gln
65 70 75 80

Lys Glu Arg Leu Leu Ile Gln Ile Gln Glu Arg Leu Leu Thr Ile Ser

```
                85                  90                  95

Glu Ile Leu Arg Asp Asp Ser Lys Lys Glu Lys Asp Pro His Arg Pro
            100                 105                 110

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

Trp Ser Ser Glu Ala Ser Lys Leu Thr Arg Gln Val Asp Arg Val Arg
    130                 135                 140

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

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

Lys Ile Asn Ile Ser Pro Leu Lys Ser Lys Ser Phe Glu Leu Asp Leu
            180                 185                 190

Ile Thr Glu Pro Gln Gln Lys Ile Ile Gly Lys Glu Gly Gly Lys Ser
        195                 200                 205

Val Ala Asn Ser Lys Lys Tyr Leu Asp Asp Ser Ile Lys Ser Leu Leu
    210                 215                 220

Ile Phe Ala Ile Lys Ser Arg Leu Phe Gly Leu Asn Asn Lys Asp Lys
225                 230                 235                 240

Pro Leu Phe Glu Asn Ile Ile Thr Pro Asn Leu Val Arg Tyr His Lys
                245                 250                 255

Lys Gly Gln Glu Gln Glu Asn Phe Lys Lys Glu Val Ile Lys Lys Phe
            260                 265                 270

Glu Asn Lys Leu Lys Lys Glu Ile Ser Gln Lys Gln Lys Glu Ile Ile
        275                 280                 285

Phe Ser Gln Ile Glu Arg Gln Tyr Glu Asn Arg Asp Ala Thr Phe Ser
    290                 295                 300
```

```
Glu Asp Tyr Leu Arg Ala Ile Ser Glu Phe Ser Glu Ile Phe Asn Gln
305                 310                 315                 320

Arg Lys Lys Glu Arg Ala Lys Glu Leu Leu Asn Ser Phe Asn Glu Lys
                325                 330                 335

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

Leu Lys Ile Leu Glu Val Glu Ala Glu Lys Ala Tyr Asn Tyr Glu Asn
        355                 360                 365

Gly Phe Ile Glu Trp Glu Tyr Ser Glu Gln Phe Leu Gly Val Leu Glu
    370                 375                 380

Lys Ile Ala Arg Ala Val Leu Ile Ser Asp Asn Tyr Phe Asp Leu Lys
385                 390                 395                 400

Lys Tyr Pro Ile Leu Ile Arg Lys Pro Thr Asn Lys Ser Lys Lys Ile
                405                 410                 415

Thr Asn Leu Lys Pro Glu Glu Trp Asp Tyr Tyr Ile Gln Phe Gly Tyr
            420                 425                 430

Gly Leu Ile Asn Ser Pro Met Lys Ile Glu Thr Lys Asn Phe Met Gly
        435                 440                 445

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

Asp Ser Glu Lys Phe Thr Ile Asn Gln Leu Glu Leu Asn Pro Ile Lys
465                 470                 475                 480

Gly Trp Lys Trp Lys Leu Arg Lys Val Lys Arg Ser Leu Gln His Leu
                485                 490                 495

Glu Arg Arg Met Arg Ala Gln Lys Gly Val Lys Leu Pro Glu Asn Gln
            500                 505                 510

Met Lys Lys Arg Leu Lys Ser Ile Glu Pro Lys Ile Glu Ser Tyr Tyr
```

```
        515                 520                 525

His Asn Leu Ser Arg Lys Ile Val Asn Leu Ala Lys Ala Asn Asn Ala
    530                 535                 540

Ser Ile Val Val Glu Ser Leu Glu Gly Gly Gly Leu Lys Gln His Gly
545                 550                 555                 560

Arg Lys Lys Asn Ser Arg His Arg Ala Leu Asn Tyr Ala Leu Ser Leu
                565                 570                 575

Phe Asp Tyr Gly Lys Ile Ala Ser Leu Ile Lys Tyr Lys Ser Asp Leu
            580                 585                 590

Glu Gly Val Pro Met Tyr Glu Val Leu Pro Ala Tyr Thr Ser Gln Gln
        595                 600                 605

Cys Ala Lys Cys Val Leu Lys Lys Gly Ser Phe Val Glu Pro Glu Ile
    610                 615                 620

Ile Gly Tyr Ile Glu Glu Ile Gly Phe Lys Glu Asn Leu Leu Thr Leu
625                 630                 635                 640

Leu Phe Glu Asp Thr Gly Leu Ser Ser Val Gln Val Leu Lys Lys Ser
                645                 650                 655

Lys Asn Lys Met Thr Leu Ser Ala Arg Asp Lys Glu Gly Lys Met Val
            660                 665                 670

Asp Leu Val Leu Lys Tyr Asn Phe Lys Gly Leu Val Ile Ser Gln Glu
        675                 680                 685

Lys Lys Lys Glu Glu Ile Val Glu Phe Pro Ile Lys Glu Ile Asp Gly
    690                 695                 700

Lys Phe Ala Val Leu Asp Ser Ala Tyr Lys Arg Gly Lys Glu Arg Ile
705                 710                 715                 720

Ser Lys Lys Gly Asn Gln Lys Leu Val Tyr Thr Gly Asn Lys Lys Val
                725                 730                 735
```

Gly Tyr Cys Ser Val His Gly Gln Val Asp Ala Asp Leu Asn Ala Ser
740 745 750

Arg Val Ile Ala Leu Cys Lys Tyr Leu Gly Ile Asn Glu Pro Ile Val
755 760 765

Phe Gly Glu Gln Arg Lys Ser Phe Lys
770 775

<210> 23
<211> 610
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 23

Leu Asp Leu Ile Thr Glu Pro Ile Gln Pro His Lys Ser Ser Ser Leu
1 5 10 15

Arg Ser Lys Glu Phe Leu Glu Tyr Gln Ile Ser Asp Phe Leu Asn Phe
20 25 30

Ser Leu His Ser Leu Phe Phe Gly Leu Ala Ser Asn Glu Gly Pro Leu
35 40 45

Val Asp Phe Lys Ile Tyr Asp Lys Ile Val Ile Pro Lys Pro Glu Glu
50 55 60

Arg Phe Pro Lys Lys Glu Ser Glu Glu Gly Lys Lys Leu Asp Ser Phe
65 70 75 80

Asp Lys Arg Val Glu Glu Tyr Tyr Ser Asp Lys Leu Glu Lys Lys Ile
85 90 95

Glu Arg Lys Leu Asn Thr Glu Glu Lys Asn Val Ile Asp Arg Glu Lys
100 105 110

Thr Arg Ile Trp Gly Glu Val Asn Lys Leu Glu Glu Ile Arg Ser Ile
115 120 125

```
Ile Asp Glu Ile Asn Glu Ile Lys Lys Gln Lys His Ile Ser Glu Lys
    130                 135                 140

Ser Lys Leu Leu Gly Glu Lys Trp Lys Lys Val Asn Asn Ile Gln Glu
145                 150                 155                 160

Thr Leu Leu Ser Gln Glu Tyr Val Ser Leu Ile Ser Asn Leu Ser Asp
                165                 170                 175

Glu Leu Thr Asn Lys Lys Lys Glu Leu Leu Ala Lys Lys Tyr Ser Lys
            180                 185                 190

Phe Asp Asp Lys Ile Lys Lys Ile Lys Glu Asp Tyr Gly Leu Glu Phe
        195                 200                 205

Asp Glu Asn Thr Ile Lys Lys Glu Gly Glu Lys Ala Phe Leu Asn Pro
    210                 215                 220

Asp Lys Phe Ser Lys Tyr Gln Phe Ser Ser Ser Tyr Leu Lys Leu Ile
225                 230                 235                 240

Gly Glu Ile Ala Arg Ser Leu Ile Thr Tyr Lys Gly Phe Leu Asp Leu
                245                 250                 255

Asn Lys Tyr Pro Ile Ile Phe Arg Lys Pro Ile Asn Lys Val Lys Lys
            260                 265                 270

Ile His Asn Leu Glu Pro Asp Glu Trp Lys Tyr Tyr Ile Gln Phe Gly
        275                 280                 285

Tyr Glu Gln Ile Asn Asn Pro Lys Leu Glu Thr Glu Asn Ile Leu Gly
    290                 295                 300

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

Arg Ser Ser Lys Phe Ile Leu Asn Lys Leu Glu Pro Asn Pro Ile Glu
                325                 330                 335

Gly Trp Lys Trp Lys Leu Arg Lys Leu Arg Arg Ser Ile Gln Asn Leu
```

```
            340                 345                 350

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

Met Lys Lys Asn Leu Arg Ser Ile Glu Asp Lys Val Glu Asn Leu Tyr
    370                 375                 380

His Asn Leu Ser Arg Lys Ile Val Asp Leu Ala Lys Glu Lys Asn Ala
385                 390                 395                 400

Cys Ile Val Phe Glu Lys Leu Glu Gly Gln Gly Met Lys Gln His Gly
                405                 410                 415

Arg Lys Lys Ser Asp Arg Leu Arg Gly Leu Asn Tyr Lys Leu Ser Leu
            420                 425                 430

Phe Asp Tyr Gly Lys Ile Ala Lys Leu Ile Lys Tyr Lys Ala Glu Ile
        435                 440                 445

Glu Gly Ile Pro Ile Tyr Arg Ile Asp Ser Ala Tyr Thr Ser Gln Asn
    450                 455                 460

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

Ile Ser Cys Leu Asp Asp Phe Lys Glu Gly Asp Asn Leu Asp Lys Arg
                485                 490                 495

Ile Leu Glu Gly Thr Gly Leu Val Glu Ala Lys Ile Tyr Lys Lys Leu
            500                 505                 510

Leu Lys Glu Lys Lys Glu Asp Phe Glu Ile Glu Glu Asp Ile Ala Met
        515                 520                 525

Phe Asp Thr Lys Lys Val Ile Lys Glu Asn Lys Glu Lys Thr Val Ile
    530                 535                 540

Leu Asp Tyr Val Tyr Thr Arg Arg Lys Glu Ile Ile Gly Thr Asn His
545                 550                 555                 560
```

Lys Lys Asn Ile Lys Gly Ile Ala Lys Tyr Thr Gly Asn Thr Lys Ile
565 570 575

Gly Tyr Cys Met Lys His Gly Gln Val Asp Ala Asp Leu Asn Ala Ser
580 585 590

Arg Thr Ile Ala Leu Cys Lys Asn Phe Asp Ile Asn Asn Pro Glu Ile
595 600 605

Trp Lys
610

<210> 24
<211> 632
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 24

Met Ser Asp Glu Ser Leu Val Ser Ser Glu Asp Lys Leu Ala Ile Lys
1 5 10 15

Ile Lys Ile Val Pro Asn Ala Glu Gln Ala Lys Met Leu Asp Glu Met
20 25 30

Phe Lys Lys Trp Ser Ser Ile Cys Asn Arg Ile Ser Arg Gly Lys Glu
35 40 45

Asp Ile Glu Thr Leu Arg Pro Asp Glu Gly Lys Glu Leu Gln Phe Asn
50 55 60

Ser Thr Gln Leu Asn Ser Ala Thr Met Asp Val Ser Asp Leu Lys Lys
65 70 75 80

Ala Met Ala Arg Gln Gly Glu Arg Leu Glu Ala Glu Val Ser Lys Leu
85 90 95

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

```
Arg His Thr Asn Pro Gln Lys Pro Ser Ser Phe Tyr Pro Ser Asp Trp
        115                 120                 125

Asp Ile Ser Gly Arg Leu Thr Pro Arg Phe His Thr Ala Arg His Tyr
    130                 135                 140

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

Thr Ile Asn Lys Ile Lys Asn Gly Lys Ile Val Phe Lys Pro Lys Arg
                165                 170                 175

Ile Thr Leu Trp Pro Ser Ser Val Asn Met Ala Phe Lys Gly Ser Arg
            180                 185                 190

Leu Leu Leu Lys Pro Phe Ala Asn Gly Phe Glu Met Glu Leu Pro Ile
        195                 200                 205

Val Ile Ser Pro Gln Lys Thr Ala Asp Gly Lys Ser Gln Lys Ala Ser
    210                 215                 220

Ala Glu Tyr Met Arg Asn Ala Leu Leu Gly Leu Ala Gly Tyr Ser Ile
225                 230                 235                 240

Asn Gln Leu Leu Phe Gly Met Asn Arg Ser Gln Lys Met Leu Ala Asn
                245                 250                 255

Ala Lys Lys Pro Glu Lys Val Glu Lys Phe Leu Glu Gln Met Lys Asn
            260                 265                 270

Lys Asp Ala Asn Phe Asp Lys Lys Ile Lys Ala Leu Glu Gly Lys Trp
        275                 280                 285

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

Val Arg Thr Lys Phe Phe Lys Ser Gly Lys Val Glu Leu Asn Glu Asp
305                 310                 315                 320

Tyr Leu Lys Leu Leu Lys His Met Ala Asn Glu Ile Leu Glu Arg Asp
```

```
                325                 330                 335

Gly Phe Val Asn Leu Asn Lys Tyr Pro Ile Leu Ser Arg Lys Pro Met
            340                 345                 350

Lys Arg Tyr Lys Gln Lys Asn Ile Asp Asn Leu Lys Pro Asn Met Trp
        355                 360                 365

Lys Tyr Tyr Ile Gln Phe Gly Tyr Glu Pro Ile Phe Glu Arg Lys Ala
    370                 375                 380

Ser Gly Lys Pro Lys Asn Ile Met Gly Ile Asp Arg Gly Leu Thr His
385                 390                 395                 400

Leu Leu Ala Val Ala Val Phe Ser Pro Asp Gln Gln Lys Phe Leu Phe
                405                 410                 415

Asn His Leu Glu Ser Asn Pro Ile Met His Trp Lys Trp Lys Leu Arg
            420                 425                 430

Lys Ile Arg Arg Ser Ile Gln His Met Glu Arg Arg Ile Arg Ala Glu
        435                 440                 445

Lys Asn Lys His Ile His Glu Ala Gln Leu Lys Lys Arg Leu Gly Ser
    450                 455                 460

Ile Glu Glu Lys Thr Glu Gln His Tyr His Ile Val Ser Ser Lys Ile
465                 470                 475                 480

Ile Asn Trp Ala Ile Glu Tyr Glu Ala Ala Ile Val Leu Glu Ser Leu
                485                 490                 495

Ser His Met Lys Gln Arg Gly Gly Lys Lys Ser Val Arg Thr Arg Ala
            500                 505                 510

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

Ile Thr Tyr Lys Ala Arg Ile Arg Gly Ile Pro Val Tyr Asp Val Leu
    530                 535                 540
```

```
Pro Gly Met Thr Ser Lys Thr Cys Ala Thr Cys Leu Leu Asn Gly Ser
545                 550                 555                 560


Gln Gly Ala Tyr Val Arg Gly Leu Glu Thr Thr Lys Ala Ala Gly Lys
                565                 570                 575


Ala Thr Lys Arg Lys Asn Met Lys Ile Gly Lys Cys Met Val Cys Asn
            580                 585                 590


Ser Ser Glu Asn Ser Met Ile Asp Ala Asp Leu Asn Ala Ala Arg Val
        595                 600                 605


Ile Ala Ile Cys Lys Tyr Lys Asn Leu Asn Asp Pro Gln Pro Ala Gly
    610                 615                 620


Ser Arg Lys Val Phe Lys Arg Phe
625                 630
```

<210> 25
<211> 625
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 25

```
Met Leu Ala Leu Lys Leu Lys Ile Met Pro Thr Glu Lys Gln Ala Glu
1               5                   10                  15


Ile Leu Asp Ala Met Phe Trp Lys Trp Ala Ser Ile Cys Ser Arg Ile
            20                  25                  30


Ala Lys Met Lys Lys Lys Val Ser Val Lys Glu Asn Lys Lys Glu Leu
        35                  40                  45


Ser Lys Lys Ile Pro Ser Asn Ser Asp Ile Trp Phe Ser Lys Thr Gln
    50                  55                  60


Leu Cys Gln Ala Glu Val Asp Val Gly Asp His Lys Lys Ala Leu Lys
65                  70                  75                  80
```

```
Asn Phe Glu Lys Arg Gln Glu Ser Leu Leu Asp Glu Leu Lys Tyr Lys
                85                  90                  95

Val Lys Ala Ile Asn Glu Val Ile Asn Asp Glu Ser Lys Arg Glu Ile
            100                 105                 110

Asp Pro Asn Asn Pro Ser Lys Phe Arg Ile Lys Asp Ser Thr Lys Lys
        115                 120                 125

Gly Asn Leu Asn Ser Pro Lys Phe Phe Thr Leu Lys Lys Trp Gln Lys
    130                 135                 140

Ile Leu Gln Glu Asn Glu Lys Arg Ile Lys Lys Lys Glu Ser Thr Ile
145                 150                 155                 160

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

Leu His Glu Glu Glu Tyr Ser Ile Asn Phe Gly Ser Ser Lys Leu Leu
            180                 185                 190

Leu Asn Cys Phe Tyr Lys Tyr Asn Lys Lys Ser Gly Ile Asn Ser Asp
        195                 200                 205

Gln Leu Glu Asn Lys Phe Asn Glu Phe Gln Asn Gly Leu Asn Ile Ile
    210                 215                 220

Cys Ser Pro Leu Gln Pro Ile Arg Gly Ser Ser Lys Arg Ser Phe Glu
225                 230                 235                 240

Phe Ile Arg Asn Ser Ile Ile Asn Phe Leu Met Tyr Ser Leu Tyr Ala
                245                 250                 255

Lys Leu Phe Gly Ile Pro Arg Ser Val Lys Ala Leu Met Lys Ser Asn
            260                 265                 270

Lys Asp Glu Asn Lys Leu Lys Leu Glu Glu Lys Leu Lys Lys Lys Lys
        275                 280                 285

Ser Ser Phe Asn Lys Thr Val Lys Glu Phe Glu Lys Met Ile Gly Arg
```

```
    290                 295                 300

Lys Leu Ser Asp Asn Glu Ser Lys Ile Leu Asn Asp Glu Ser Lys Lys
305                 310                 315                 320

Phe Phe Glu Ile Ile Lys Ser Asn Asn Lys Tyr Ile Pro Ser Glu Glu
                325                 330                 335

Tyr Leu Lys Leu Leu Lys Asp Ile Ser Glu Glu Ile Tyr Asn Ser Asn
            340                 345                 350

Ile Asp Phe Lys Pro Tyr Lys Tyr Ser Ile Leu Ile Arg Lys Pro Leu
        355                 360                 365

Ser Lys Phe Lys Ser Lys Lys Leu Tyr Asn Leu Lys Pro Thr Asp Tyr
    370                 375                 380

Lys Tyr Tyr Leu Gln Leu Ser Tyr Glu Pro Phe Ser Lys Gln Leu Ile
385                 390                 395                 400

Ala Thr Lys Thr Ile Leu Gly Ile Asp Arg Gly Leu Lys His Leu Leu
                405                 410                 415

Ala Val Ser Val Phe Asp Pro Ser Gln Asn Lys Phe Val Tyr Asn Lys
            420                 425                 430

Leu Ile Lys Asn Pro Val Phe Lys Trp Lys Lys Arg Tyr His Asp Leu
        435                 440                 445

Lys Arg Ser Ile Arg Asn Arg Glu Arg Arg Ile Arg Ala Leu Thr Gly
    450                 455                 460

Val His Ile His Glu Asn Gln Leu Ile Lys Lys Leu Lys Ser Met Lys
465                 470                 475                 480

Asn Lys Ile Asn Val Leu Tyr His Asn Val Ser Lys Asn Ile Val Asp
                485                 490                 495

Leu Ala Lys Lys Tyr Glu Ser Thr Ile Val Leu Glu Arg Leu Glu Asn
            500                 505                 510
```

```
Leu Lys Gln His Gly Arg Ser Lys Gly Lys Arg Tyr Lys Lys Leu Asn
        515                 520                 525

Tyr Val Leu Ser Asn Phe Asp Tyr Lys Lys Ile Glu Ser Leu Ile Ser
    530                 535                 540

Tyr Lys Ala Lys Lys Glu Gly Val Pro Val Ser Asn Ile Asn Pro Lys
545                 550                 555                 560

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

Ser Glu Leu Lys Asn Glu Tyr Asn Arg Asp Ser Lys Asn Ser Lys Ile
            580                 585                 590

Gly Ile Cys Asn Ile His Gly Gln Ile Asp Ala Asp Leu Asn Ala Ala
        595                 600                 605

Arg Val Ile Ala Leu Cys Tyr Ser Lys Asn Leu Asn Glu Pro His Phe
    610                 615                 620

Lys
625
```

<210> 26
<211> 517
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 26

```
Val Ile Asn Leu Phe Gly Tyr Lys Phe Ala Leu Tyr Pro Asn Lys Thr
1               5                   10                  15

Gln Glu Glu Leu Leu Asn Lys His Leu Gly Glu Cys Gly Trp Leu Tyr
            20                  25                  30

Asn Lys Ala Ile Glu Gln Asn Glu Tyr Tyr Lys Ala Asp Ser Asn Ile
        35                  40                  45
```

```
Glu Glu Ala Gln Lys Lys Phe Glu Leu Leu Pro Asp Lys Asn Ser Asp
    50                  55                  60

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

Arg Thr Leu Val Lys Lys Lys Lys Ser Glu Ile Asn Val Gln Ile Arg
                85                  90                  95

Lys Ala Val Val Leu Arg Pro Ala Glu Thr Ile Arg Asn Leu Ala Lys
            100                 105                 110

Val Lys Lys Lys Gly Leu Ser Val Gly Arg Leu Lys Phe Ile Pro Ile
        115                 120                 125

Arg Glu Trp Asp Val Leu Pro Phe Lys Gln Ser Asp Gln Ile Arg Leu
    130                 135                 140

Glu Glu Asn Tyr Leu Ile Leu Glu Pro Tyr Gly Arg Leu Lys Phe Lys
145                 150                 155                 160

Met His Arg Pro Leu Leu Gly Lys Pro Lys Thr Phe Cys Ile Lys Arg
                165                 170                 175

Thr Ala Thr Asp Arg Trp Thr Ile Ser Phe Ser Thr Glu Tyr Asp Asp
            180                 185                 190

Ser Asn Met Arg Lys Asn Asp Gly Gly Gln Val Gly Ile Asp Val Gly
        195                 200                 205

Leu Lys Thr His Leu Arg Leu Ser Asn Glu Asn Pro Asp Glu Asp Pro
    210                 215                 220

Arg Tyr Pro Asn Pro Lys Ile Trp Lys Arg Tyr Asp Arg Arg Leu Thr
225                 230                 235                 240

Ile Leu Gln Arg Arg Ile Ser Lys Ser Lys Lys Leu Gly Lys Asn Arg
                245                 250                 255

Thr Arg Leu Arg Leu Arg Leu Ser Arg Leu Trp Glu Lys Ile Arg Asn
```

```
            260                 265                 270

Ser Arg Ala Asp Leu Ile Gln Asn Glu Thr Tyr Glu Ile Leu Ser Glu
        275                 280                 285

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

Lys Lys Asp Lys Lys Gly Arg Lys Gly Arg Thr Arg Ala Gln Glu Lys
305                 310                 315                 320

Gly Leu His Arg Ser Ile Ser Asp Ala Ala Phe Ser Glu Phe Arg Arg
                325                 330                 335

Val Leu Glu Tyr Lys Ala Lys Arg Phe Gly Ser Glu Val Lys Pro Val
            340                 345                 350

Ser Ala Ile Asp Ser Ser Lys Glu Cys His Asn Cys Gly Asn Lys Lys
        355                 360                 365

Gly Met Pro Leu Glu Ser Arg Ile Tyr Glu Cys Pro Lys Cys Gly Leu
    370                 375                 380

Lys Ile Asp Arg Asp Leu Asn Ser Ala Lys Val Ile Leu Ala Arg Ala
385                 390                 395                 400

Thr Gly Val Arg Pro Gly Ser Asn Ala Arg Ala Asp Thr Lys Ile Ser
                405                 410                 415

Ala Thr Ala Gly Ala Ser Val Gln Thr Glu Gly Thr Val Ser Glu Asp
            420                 425                 430

Phe Arg Gln Gln Met Glu Thr Ser Asp Gln Lys Pro Met Gln Gly Glu
        435                 440                 445

Gly Ser Lys Glu Pro Pro Met Asn Pro Glu His Lys Ser Ser Gly Arg
    450                 455                 460

Gly Ser Lys His Val Asn Ile Gly Cys Lys Asn Lys Val Gly Leu Tyr
465                 470                 475                 480
```

```
Asn Glu Asp Glu Asn Ser Arg Ser Thr Glu Lys Gln Ile Met Asp Glu
                485                 490                 495


Asn Arg Ser Thr Thr Glu Asp Met Val Glu Ile Gly Ala Leu His Ser
            500                 505                 510


Pro Val Leu Thr Thr
        515
```

<210> 27
<211> 410
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 27

```
Met Ile Ala Ser Ile Asp Tyr Glu Ala Val Ser Gln Ala Leu Ile Val
1               5                   10                  15


Phe Glu Phe Lys Ala Lys Gly Lys Asp Ser Gln Tyr Gln Ala Ile Asp
            20                  25                  30


Glu Ala Ile Arg Ser Tyr Arg Phe Ile Arg Asn Ser Cys Leu Arg Tyr
        35                  40                  45


Trp Met Asp Asn Lys Lys Val Gly Lys Tyr Asp Leu Asn Lys Tyr Cys
    50                  55                  60


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


Ala Arg Gln Ser Ala Ala Glu Cys Ser Trp Ser Ala Ile Ser Arg Phe
                85                  90                  95


Tyr Asp Asn Cys Lys Arg Lys Val Ser Gly Lys Lys Gly Phe Pro Lys
            100                 105                 110


Phe Lys Lys His Ala Arg Ser Val Glu Tyr Lys Thr Ser Gly Trp Lys
        115                 120                 125
```

```
Leu Ser Glu Asn Arg Lys Ala Ile Thr Phe Thr Asp Lys Asn Gly Ile
    130                 135                 140

Gly Lys Leu Lys Leu Lys Gly Thr Tyr Asp Leu His Phe Ser Gln Leu
145                 150                 155                 160

Glu Asp Met Lys Arg Val Arg Leu Val Arg Arg Ala Asp Gly Tyr Tyr
                165                 170                 175

Val Gln Phe Cys Ile Ser Val Asp Val Lys Val Glu Thr Glu Pro Thr
            180                 185                 190

Gly Lys Ala Ile Gly Leu Asp Val Gly Ile Lys Tyr Phe Leu Ala Asp
        195                 200                 205

Ser Ser Gly Asn Thr Ile Glu Asn Pro Gln Phe Tyr Arg Lys Ala Glu
    210                 215                 220

Lys Lys Leu Asn Arg Ala Asn Arg Arg Lys Ser Lys Lys Tyr Ile Arg
225                 230                 235                 240

Gly Val Lys Pro Gln Ser Lys Asn Tyr His Lys Ala Arg Cys Arg Tyr
                245                 250                 255

Ala Arg Lys His Leu Arg Val Ser Arg Gln Arg Lys Glu Tyr Cys Lys
            260                 265                 270

Arg Val Ala Tyr Cys Val Ile His Ser Asn Asp Val Val Ala Tyr Glu
        275                 280                 285

Asp Leu Asn Val Lys Gly Met Val Lys Asn Arg His Leu Ala Lys Ser
    290                 295                 300

Ile Ser Asp Val Ala Trp Ser Thr Phe Arg His Trp Leu Glu Tyr Phe
305                 310                 315                 320

Ala Ile Lys Tyr Gly Lys Leu Thr Ile Pro Val Ala Pro His Asn Thr
                325                 330                 335

Ser Gln Asn Cys Ser Asn Cys Asp Lys Lys Val Pro Lys Ser Leu Ser
```

340 345 350

Thr Arg Thr His Ile Cys His His Cys Gly Tyr Ser Glu Asp Arg Asp
355 360 365

Val Asn Ala Ala Lys Asn Ile Leu Lys Lys Ala Leu Ser Thr Val Gly
370 375 380

Gln Thr Gly Ser Leu Lys Leu Gly Glu Ile Glu Pro Leu Leu Val Leu
385 390 395 400

Glu Gln Ser Cys Thr Arg Lys Phe Asp Leu
405 410

<210> 28
<211> 486
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 28

Leu Ala Glu Glu Asn Thr Leu His Leu Thr Leu Ala Met Ser Leu Pro
1 5 10 15

Leu Asn Asp Leu Pro Glu Asn Arg Thr Arg Ser Glu Leu Trp Arg Arg
20 25 30

Gln Trp Leu Pro Gln Lys Lys Leu Ser Leu Leu Leu Gly Val Asn Gln
35 40 45

Ser Val Arg Lys Ala Ala Ala Asp Cys Leu Arg Trp Phe Glu Pro Tyr
50 55 60

Gln Glu Leu Leu Trp Trp Glu Pro Thr Asp Pro Asp Gly Lys Lys Leu
65 70 75 80

Leu Asp Lys Glu Gly Arg Pro Ile Lys Arg Thr Ala Gly His Met Arg
85 90 95

Val Leu Arg Lys Leu Glu Glu Ile Ala Pro Phe Arg Gly Tyr Gln Leu

```
            100                 105                 110

Gly Ser Ala Val Lys Asn Gly Leu Arg His Lys Val Ala Asp Leu Leu
        115                 120                 125

Leu Ser Tyr Ala Lys Arg Lys Leu Asp Pro Gln Phe Thr Asp Lys Thr
    130                 135                 140

Ser Tyr Pro Ser Ile Gly Asp Gln Phe Pro Ile Val Trp Thr Gly Ala
145                 150                 155                 160

Phe Val Cys Tyr Glu Gln Ser Ile Thr Gly Gln Leu Tyr Leu Tyr Leu
                165                 170                 175

Pro Leu Phe Pro Arg Gly Ser His Gln Glu Asp Ile Thr Asn Asn Tyr
            180                 185                 190

Asp Pro Asp Arg Gly Pro Ala Leu Gln Val Phe Gly Glu Lys Glu Ile
        195                 200                 205

Ala Arg Leu Ser Arg Ser Thr Ser Gly Leu Leu Leu Pro Leu Gln Phe
    210                 215                 220

Asp Lys Trp Gly Glu Ala Thr Phe Ile Arg Gly Glu Asn Asn Pro Pro
225                 230                 235                 240

Thr Trp Lys Ala Thr His Arg Arg Ser Asp Lys Lys Trp Leu Ser Glu
                245                 250                 255

Val Leu Leu Arg Glu Lys Asp Phe Gln Pro Lys Arg Val Glu Leu Leu
            260                 265                 270

Val Arg Asn Gly Arg Ile Phe Val Asn Val Ala Cys Glu Ile Pro Thr
        275                 280                 285

Lys Pro Leu Leu Glu Val Glu Asn Phe Met Gly Val Ser Phe Gly Leu
    290                 295                 300

Glu His Leu Val Thr Val Val Val Ile Asn Arg Asp Gly Asn Val Val
305                 310                 315                 320
```

```
His Gln Arg Gln Glu Pro Ala Arg Arg Tyr Glu Lys Thr Tyr Phe Ala
                325                 330                 335

Arg Leu Glu Arg Leu Arg Arg Arg Gly Gly Pro Phe Ser Gln Glu Leu
            340                 345                 350

Glu Thr Phe His Tyr Arg Gln Val Ala Gln Ile Val Glu Glu Ala Leu
        355                 360                 365

Arg Phe Lys Ser Val Pro Ala Val Glu Gln Val Gly Asn Ile Pro Lys
    370                 375                 380

Gly Arg Tyr Asn Pro Arg Leu Asn Leu Arg Leu Ser Tyr Trp Pro Phe
385                 390                 395                 400

Gly Lys Leu Ala Asp Leu Thr Ser Tyr Lys Ala Val Lys Glu Gly Leu
                405                 410                 415

Pro Lys Pro Tyr Ser Val Tyr Ser Ala Thr Ala Lys Met Leu Cys Ser
            420                 425                 430

Thr Cys Gly Ala Ala Asn Lys Glu Gly Asp Gln Pro Ile Ser Leu Lys
        435                 440                 445

Gly Pro Thr Val Tyr Cys Gly Asn Cys Gly Thr Arg His Asn Thr Gly
    450                 455                 460

Phe Asn Thr Ala Leu Asn Leu Ala Arg Arg Ala Gln Glu Leu Phe Val
465                 470                 475                 480

Lys Gly Val Val Ala Arg
                485
```

<210> 29
<211> 602
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 29

```
Met Ser Gln Ser Leu Leu Lys Trp His Asp Met Ala Gly Arg Asp Lys
1               5                  10                  15

Asp Ala Ser Arg Ser Leu Gln Lys Ser Ala Val Glu Gly Val Leu Leu
            20                  25                  30

His Leu Thr Ala Ser His Arg Val Ala Leu Glu Met Leu Glu Lys Ser
        35                  40                  45

Val Ser Gln Thr Val Ala Val Thr Met Glu Ala Ala Gln Gln Arg Leu
    50                  55                  60

Val Ile Val Leu Glu Asp Asp Pro Thr Lys Ala Thr Ser Arg Lys Arg
65                  70                  75                  80

Val Ile Ser Ala Asp Leu Gln Phe Thr Arg Glu Glu Phe Gly Ser Leu
                85                  90                  95

Pro Asn Trp Ala Gln Lys Leu Ala Ser Thr Cys Pro Glu Ile Ala Thr
            100                 105                 110

Lys Tyr Ala Asp Lys His Ile Asn Ser Ile Arg Ile Ala Trp Gly Val
        115                 120                 125

Ala Lys Glu Ser Thr Asn Gly Asp Ala Val Glu Gln Lys Leu Gln Trp
    130                 135                 140

Gln Ile Arg Leu Leu Asp Val Thr Met Phe Leu Gln Gln Leu Val Leu
145                 150                 155                 160

Gln Leu Ala Asp Lys Ala Leu Leu Glu Gln Ile Pro Ser Ser Ile Arg
                165                 170                 175

Gly Gly Ile Gly Gln Glu Val Ala Gln Gln Val Thr Ser His Ile Gln
            180                 185                 190

Leu Leu Asp Ser Gly Thr Val Leu Lys Ala Glu Leu Pro Thr Ile Ser
        195                 200                 205

Asp Arg Asn Ser Glu Leu Ala Arg Lys Gln Trp Glu Asp Ala Ile Gln
```

```
    210                 215                 220

Thr Val Cys Thr Tyr Ala Leu Pro Phe Ser Arg Glu Arg Ala Arg Ile
225                 230                 235                 240

Leu Asp Pro Gly Lys Tyr Ala Ala Glu Asp Pro Arg Gly Asp Arg Leu
                245                 250                 255

Ile Asn Ile Asp Pro Met Trp Ala Arg Val Leu Lys Gly Pro Thr Val
            260                 265                 270

Lys Ser Leu Pro Leu Leu Phe Val Ser Gly Ser Ser Ile Arg Ile Val
        275                 280                 285

Lys Leu Thr Leu Pro Arg Lys His Ala Ala Gly His Lys His Thr Phe
    290                 295                 300

Thr Ala Thr Tyr Leu Val Leu Pro Val Ser Arg Glu Trp Ile Asn Ser
305                 310                 315                 320

Leu Pro Gly Thr Val Gln Glu Lys Val Gln Trp Trp Lys Lys Pro Asp
                325                 330                 335

Val Leu Ala Thr Gln Glu Leu Leu Val Gly Lys Gly Ala Leu Lys Lys
            340                 345                 350

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

Phe Asn His Ile Leu Pro Ala Leu Gln Arg Gly Phe Pro Leu Gln Trp
    370                 375                 380

Gln Arg Ile Val Gly Arg Ser Tyr Arg Arg Pro Ala Thr His Arg Lys
385                 390                 395                 400

Trp Phe Ala Gln Leu Thr Ile Gly Tyr Thr Asn Pro Ser Ser Leu Pro
                405                 410                 415

Glu Met Ala Leu Gly Ile His Phe Gly Met Lys Asp Ile Leu Trp Trp
            420                 425                 430
```

```
Ala Leu Ala Asp Lys Gln Gly Asn Ile Leu Lys Asp Gly Ser Ile Pro
        435                 440                 445

Gly Asn Ser Ile Leu Asp Phe Ser Leu Gln Glu Lys Gly Lys Ile Glu
    450                 455                 460

Arg Gln Gln Lys Ala Gly Lys Asn Val Ala Gly Lys Lys Tyr Gly Lys
465                 470                 475                 480

Ser Leu Leu Asn Ala Thr Tyr Arg Val Val Asn Gly Val Leu Glu Phe
                485                 490                 495

Ser Lys Gly Ile Ser Ala Glu His Ala Ser Gln Pro Ile Gly Leu Gly
            500                 505                 510

Leu Glu Thr Ile Arg Phe Val Asp Lys Ala Ser Gly Ser Ser Pro Val
        515                 520                 525

Asn Ala Arg His Ser Asn Trp Asn Tyr Gly Gln Leu Ser Gly Ile Phe
    530                 535                 540

Ala Asn Lys Ala Gly Pro Ala Gly Phe Ser Val Thr Glu Ile Thr Leu
545                 550                 555                 560

Lys Lys Ala Gln Arg Asp Leu Ser Asp Ala Glu Gln Ala Arg Val Leu
                565                 570                 575

Ala Ile Glu Ala Thr Lys Arg Phe Ala Ser Arg Ile Lys Arg Leu Ala
            580                 585                 590

Thr Lys Arg Lys Asp Asp Thr Leu Phe Val
        595                 600
```

<210> 30
<211> 494
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 30

```
Val Glu Pro Val Glu Lys Glu Arg Phe Tyr Tyr Arg Thr Tyr Thr Phe
1               5                  10                  15

Arg Leu Asp Gly Gln Pro Arg Thr Gln Asn Leu Thr Thr Gln Ser Gly
            20                  25                  30

Trp Gly Leu Leu Thr Lys Ala Val Leu Asp Asn Thr Lys His Tyr Trp
        35                  40                  45

Glu Ile Val His His Ala Arg Ile Ala Asn Gln Pro Ile Val Phe Glu
    50                  55                  60

Asn Pro Val Ile Asp Glu Gln Gly Asn Pro Lys Leu Asn Lys Leu Gly
65                  70                  75                  80

Gln Pro Arg Phe Trp Lys Arg Pro Ile Ser Asp Ile Val Asn Gln Leu
                85                  90                  95

Arg Ala Leu Phe Glu Asn Gln Asn Pro Tyr Gln Leu Gly Ser Ser Leu
            100                 105                 110

Ile Gln Gly Thr Tyr Trp Asp Val Ala Glu Asn Leu Ala Ser Trp Tyr
        115                 120                 125

Ala Leu Asn Lys Glu Tyr Leu Ala Gly Thr Ala Thr Trp Gly Glu Pro
    130                 135                 140

Ser Phe Pro Glu Pro His Pro Leu Thr Glu Ile Asn Gln Trp Met Pro
145                 150                 155                 160

Leu Thr Phe Ser Ser Gly Lys Val Val Arg Leu Leu Lys Asn Ala Ser
                165                 170                 175

Gly Arg Tyr Phe Ile Gly Leu Pro Ile Leu Gly Glu Asn Asn Pro Cys
            180                 185                 190

Tyr Arg Met Arg Thr Ile Glu Lys Leu Ile Pro Cys Asp Gly Lys Gly
        195                 200                 205

Arg Val Thr Ser Gly Ser Leu Ile Leu Phe Pro Leu Val Gly Ile Tyr
```

```
    210                 215                 220

Ala Gln Gln His Arg Arg Met Thr Asp Ile Cys Glu Ser Ile Arg Thr
225                 230                 235                 240

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

Glu Val Asp Lys Arg Arg Arg Met Arg Arg Thr Arg Lys Ser Gln Gly
            260                 265                 270

Trp Ile Gln Gly Pro Trp Gln Glu Val Phe Ile Leu Arg Leu Val Leu
        275                 280                 285

Ala His Lys Ala Pro Lys Leu Tyr Lys Pro Arg Cys Phe Ala Gly Ile
    290                 295                 300

Ser Leu Gly Pro Lys Thr Leu Ala Ser Cys Val Ile Leu Asp Gln Asp
305                 310                 315                 320

Glu Arg Val Val Glu Lys Gln Gln Trp Ser Gly Ser Glu Leu Leu Ser
                325                 330                 335

Leu Ile His Gln Gly Glu Glu Arg Leu Arg Ser Leu Arg Glu Gln Ser
            340                 345                 350

Lys Pro Thr Trp Asn Ala Ala Tyr Arg Lys Gln Leu Lys Ser Leu Ile
        355                 360                 365

Asn Thr Gln Val Phe Thr Ile Val Thr Phe Leu Arg Glu Arg Gly Ala
    370                 375                 380

Ala Val Arg Leu Glu Ser Ile Ala Arg Val Arg Lys Ser Thr Pro Ala
385                 390                 395                 400

Pro Pro Val Asn Phe Leu Leu Ser His Trp Ala Tyr Arg Gln Ile Thr
                405                 410                 415

Glu Arg Leu Lys Asp Leu Ala Ile Arg Asn Gly Met Pro Leu Thr His
            420                 425                 430
```

Ser Asn Gly Ser Tyr Gly Val Arg Phe Thr Cys Ser Gln Cys Gly Ala
435 440 445

Thr Asn Gln Gly Ile Lys Asp Pro Thr Lys Tyr Lys Val Asp Ile Glu
450 455 460

Ser Glu Thr Phe Leu Cys Ser Ile Cys Ser His Arg Glu Ile Ala Ala
465 470 475 480

Val Asn Thr Ala Thr Asn Leu Ala Lys Gln Leu Leu Asp Glu
485 490

<210> 31
<211> 526
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 31

Met Asn Asp Thr Glu Thr Ser Glu Thr Leu Thr Ser His Arg Thr Val
1 5 10 15

Cys Ala His Leu His Val Val Gly Glu Thr Gly Ser Leu Pro Arg Leu
20 25 30

Val Glu Ala Ala Leu Ala Glu Leu Ile Thr Leu Asn Gly Arg Ala Thr
35 40 45

Gln Ala Leu Leu Ser Leu Ala Lys Asn Gly Leu Val Leu Arg Arg Asp
50 55 60

Lys Glu Glu Asn Leu Ile Ala Ala Glu Leu Thr Leu Pro Cys Arg Lys
65 70 75 80

Asn Lys Tyr Ala Asp Val Ala Ala Lys Ala Gly Glu Pro Ile Leu Ala
85 90 95

Thr Arg Ile Asn Asn Lys Gly Lys Leu Val Thr Lys Lys Trp Tyr Gly
100 105 110

```
Glu Gly Asn Ser Tyr His Ile Val Arg Phe Thr Pro Glu Thr Gly Met
        115                 120                 125

Phe Thr Val Arg Val Phe Asp Arg Tyr Ala Phe Asp Glu Glu Leu Leu
    130                 135                 140

His Leu His Ser Glu Val Val Phe Gly Ser Asp Leu Pro Lys Gly Ile
145                 150                 155                 160

Lys Ala Lys Thr Asp Ser Leu Pro Ala Asn Phe Leu Gln Ala Val Phe
                165                 170                 175

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

Lys Pro Ala Met Lys Gln Ala Ala Glu Gln Leu Leu Ser Tyr Val Gln
        195                 200                 205

Leu Glu Ala Gly Glu Asn Gln Gln Ala Glu Tyr Pro Asp Thr Asn Glu
    210                 215                 220

Arg Asp Pro Glu Leu Arg Leu Val Glu Trp Gln Lys Ser Leu His Glu
225                 230                 235                 240

Leu Ser Val Arg Thr Glu Pro Phe Glu Phe Val Arg Ala Arg Asp Ile
                245                 250                 255

Asp Tyr Tyr Ala Glu Thr Asp Arg Arg Gly Asn Arg Phe Val Asn Ile
            260                 265                 270

Thr Pro Glu Trp Thr Lys Phe Ala Glu Ser Pro Phe Ala Arg Arg Leu
        275                 280                 285

Pro Leu Lys Ile Pro Pro Glu Phe Cys Ile Leu Leu Arg Arg Lys Thr
    290                 295                 300

Glu Gly His Ala Lys Ile Pro Asn Arg Ile Tyr Leu Gly Leu Gln Ile
305                 310                 315                 320

Phe Asp Gly Val Thr Pro Asp Ser Thr Leu Gly Val Leu Ala Thr Ala
```

```
                325                 330                 335

Glu Asp Gly Lys Leu Phe Trp Trp His Asp His Leu Asp Glu Phe Ser
            340                 345                 350

Asn Leu Glu Gly Lys Pro Glu Pro Lys Leu Lys Asn Lys Pro Gln Leu
        355                 360                 365

Leu Met Val Ser Leu Glu Tyr Asp Arg Glu Gln Arg Phe Glu Glu Ser
    370                 375                 380

Val Gly Gly Asp Arg Lys Ile Cys Leu Val Thr Leu Lys Glu Thr Arg
385                 390                 395                 400

Asn Phe Arg Arg Gly Trp Asn Gly Arg Ile Leu Gly Ile His Phe Gln
                405                 410                 415

His Asn Pro Val Ile Thr Trp Ala Leu Met Asp His Asp Ala Glu Val
            420                 425                 430

Leu Glu Lys Gly Phe Ile Glu Gly Asn Ala Phe Leu Gly Lys Ala Leu
        435                 440                 445

Asp Lys Gln Ala Leu Asn Glu Tyr Leu Gln Lys Gly Gly Lys Trp Val
    450                 455                 460

Gly Asp Arg Ser Phe Gly Asn Lys Leu Lys Gly Ile Thr His Thr Leu
465                 470                 475                 480

Ala Ser Leu Ile Val Arg Leu Ala Arg Glu Lys Asp Ala Trp Ile Ala
                485                 490                 495

Leu Glu Glu Ile Ser Trp Val Gln Lys Gln Ser Ala Asp Ser Val Ala
            500                 505                 510

Asn His Glu Ile Val Glu Gln Pro His His Ser Leu Thr Arg
        515                 520                 525

<210>  32
<211>  649
<212>  PRT
```

<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 32

```
Met Asn Asp Thr Glu Thr Ser Glu Thr Leu Thr Ser His Arg Thr Val
1               5                  10                  15


Cys Ala His Leu His Val Val Gly Glu Thr Gly Ser Leu Pro Arg Leu
            20                  25                  30


Val Glu Ala Ala Leu Ala Glu Leu Ile Thr Leu Asn Gly Arg Ala Thr
        35                  40                  45


Gln Ala Leu Leu Ser Leu Ala Lys Asn Gly Leu Val Leu Arg Arg Asp
    50                  55                  60


Lys Glu Glu Asn Leu Ile Ala Ala Glu Leu Thr Leu Pro Cys Arg Lys
65                  70                  75                  80


Asn Lys Tyr Ala Asp Val Ala Ala Lys Ala Gly Glu Pro Ile Leu Ala
                85                  90                  95


Thr Arg Ile Asn Asn Lys Gly Lys Leu Val Thr Lys Lys Trp Tyr Gly
            100                 105                 110


Glu Gly Asn Ser Tyr His Ile Val Arg Phe Thr Pro Glu Thr Gly Met
        115                 120                 125


Phe Thr Val Arg Val Phe Asp Arg Tyr Ala Phe Asp Glu Glu Leu Leu
    130                 135                 140


His Leu His Ser Glu Val Val Phe Gly Ser Asp Leu Pro Lys Gly Ile
145                 150                 155                 160


Lys Ala Lys Thr Asp Ser Leu Pro Ala Asn Phe Leu Gln Ala Val Phe
                165                 170                 175


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

```
Lys Pro Ala Met Lys Gln Ala Ala Glu Gln Leu Leu Ser Tyr Val Gln
        195                 200                 205

Leu Glu Ala Gly Glu Asn Gln Gln Ala Glu Tyr Pro Asp Thr Asn Glu
    210                 215                 220

Arg Asp Pro Glu Leu Arg Leu Val Glu Trp Gln Lys Ser Leu His Glu
225                 230                 235                 240

Leu Ser Val Arg Thr Glu Pro Phe Glu Phe Val Arg Ala Arg Asp Ile
                245                 250                 255

Asp Tyr Tyr Ala Glu Thr Asp Arg Arg Gly Asn Arg Phe Val Asn Ile
            260                 265                 270

Thr Pro Glu Trp Thr Lys Phe Ala Glu Ser Pro Phe Ala Arg Arg Leu
        275                 280                 285

Pro Leu Lys Ile Pro Pro Glu Phe Cys Ile Leu Leu Arg Arg Lys Thr
    290                 295                 300

Glu Gly His Ala Lys Ile Pro Asn Arg Ile Tyr Leu Gly Leu Gln Ile
305                 310                 315                 320

Phe Asp Gly Val Thr Pro Asp Ser Thr Leu Gly Val Leu Ala Thr Ala
                325                 330                 335

Glu Asp Gly Lys Leu Phe Trp Trp His Asp His Leu Asp Glu Phe Ser
            340                 345                 350

Asn Leu Glu Gly Lys Pro Glu Pro Lys Leu Lys Asn Lys Pro Gln Leu
        355                 360                 365

Leu Met Val Ser Leu Glu Tyr Asp Arg Glu Gln Arg Phe Glu Glu Ser
    370                 375                 380

Val Gly Gly Asp Arg Lys Ile Cys Leu Val Thr Leu Lys Glu Thr Arg
385                 390                 395                 400

Asn Phe Arg Arg Gly Arg His Gly His Thr Arg Thr Asp Arg Leu Pro
```

```
               405                 410                 415

Ala Gly Asn Thr Leu Trp Arg Ala Asp Phe Ala Thr Ser Ala Glu Val
            420                 425                 430

Ala Ala Pro Lys Trp Asn Gly Arg Ile Leu Gly Ile His Phe Gln His
        435                 440                 445

Asn Pro Val Ile Thr Trp Ala Leu Met Asp His Asp Ala Glu Val Leu
    450                 455                 460

Glu Lys Gly Phe Ile Glu Gly Asn Ala Phe Leu Gly Lys Ala Leu Asp
465                 470                 475                 480

Lys Gln Ala Leu Asn Glu Tyr Leu Gln Lys Gly Gly Lys Trp Val Gly
               485                 490                 495

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

Ser Leu Ile Val Arg Leu Ala Arg Glu Lys Asp Ala Trp Ile Ala Leu
        515                 520                 525

Glu Glu Ile Ser Trp Val Gln Lys Gln Ser Ala Asp Ser Val Ala Asn
    530                 535                 540

Arg Arg Phe Ser Met Trp Asn Tyr Ser Arg Leu Ala Thr Leu Ile Glu
545                 550                 555                 560

Trp Leu Gly Thr Asp Ile Ala Thr Arg Asp Cys Gly Thr Ala Ala Pro
               565                 570                 575

Leu Ala His Lys Val Ser Asp Tyr Leu Thr His Phe Thr Cys Pro Glu
            580                 585                 590

Cys Gly Ala Cys Arg Lys Ala Gly Gln Lys Lys Glu Ile Ala Asp Thr
        595                 600                 605

Val Arg Ala Gly Asp Ile Leu Thr Cys Arg Lys Cys Gly Phe Ser Gly
    610                 615                 620
```

Pro Ile Pro Asp Asn Phe Ile Ala Glu Phe Val Ala Lys Lys Ala Leu
625 630 635 640

Glu Arg Met Leu Lys Lys Lys Pro Val
645

<210> 33
<211> 414
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 33

Met Ala Lys Arg Asn Phe Gly Glu Lys Ser Glu Ala Leu Tyr Arg Ala
1 5 10 15

Val Arg Phe Glu Val Arg Pro Ser Lys Glu Glu Leu Ser Ile Leu Leu
20 25 30

Ala Val Ser Glu Val Leu Arg Met Leu Phe Asn Ser Ala Leu Ala Glu
35 40 45

Arg Gln Gln Val Phe Thr Glu Phe Ile Ala Ser Leu Tyr Ala Glu Leu
50 55 60

Lys Ser Ala Ser Val Pro Glu Glu Ile Ser Glu Ile Arg Lys Lys Leu
65 70 75 80

Arg Glu Ala Tyr Lys Glu His Ser Ile Ser Leu Phe Asp Gln Ile Asn
85 90 95

Ala Leu Thr Ala Arg Arg Val Glu Asp Glu Ala Phe Ala Ser Val Thr
100 105 110

Arg Asn Trp Gln Glu Glu Thr Leu Asp Ala Leu Asp Gly Ala Tyr Lys
115 120 125

Ser Phe Leu Ser Leu Arg Arg Lys Gly Asp Tyr Asp Ala His Ser Pro
130 135 140

```
Arg Ser Arg Asp Ser Gly Phe Phe Gln Lys Ile Pro Gly Arg Ser Gly
145                 150                 155                 160

Phe Lys Ile Gly Glu Gly Arg Ile Ala Leu Ser Cys Gly Ala Gly Arg
                165                 170                 175

Lys Leu Ser Phe Pro Ile Pro Asp Tyr Gln Gln Gly Arg Leu Ala Glu
            180                 185                 190

Thr Thr Lys Leu Lys Lys Phe Glu Leu Tyr Arg Asp Gln Pro Asn Leu
        195                 200                 205

Ala Lys Ser Gly Arg Phe Trp Ile Ser Val Val Tyr Glu Leu Pro Lys
    210                 215                 220

Pro Glu Ala Thr Thr Cys Gln Ser Glu Gln Val Ala Phe Val Ala Leu
225                 230                 235                 240

Gly Ala Ser Ser Ile Gly Val Val Ser Gln Arg Gly Glu Glu Val Ile
                245                 250                 255

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

Glu Glu Arg Met Lys Arg Arg Val Lys Gly Ser Arg Gly Trp Leu Arg
        275                 280                 285

Leu Leu Asn Ser Gly Lys Arg Arg Met His Met Ile Ser Ser Arg Gln
    290                 295                 300

His Val Gln Asp Glu Arg Glu Ile Val Asp Tyr Leu Val Arg Asn His
305                 310                 315                 320

Gly Ser His Phe Val Val Thr Glu Leu Val Val Arg Ser Lys Glu Gly
                325                 330                 335

Lys Leu Ala Asp Ser Ser Lys Pro Glu Arg Gly Gly Ser Leu Gly Leu
            340                 345                 350

Asn Trp Ala Ala Gln Asn Thr Gly Ser Leu Ser Arg Leu Val Arg Gln
```

355 360 365

Leu Glu Glu Lys Val Lys Glu His Gly Gly Ser Val Arg Lys His Lys
370 375 380

Leu Thr Leu Thr Glu Ala Pro Pro Ala Arg Gly Ala Glu Asn Lys Leu
385 390 395 400

Trp Met Ala Arg Lys Leu Arg Glu Ser Phe Leu Lys Glu Val
405 410

<210> 34
<211> 413
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 34

Leu Ala Lys Asn Asp Glu Lys Glu Leu Leu Tyr Gln Ser Val Lys Phe
1 5 10 15

Glu Ile Tyr Pro Asp Glu Ser Lys Ile Arg Val Leu Thr Arg Val Ser
20 25 30

Asn Ile Leu Val Leu Val Trp Asn Ser Ala Leu Gly Glu Arg Arg Ala
35 40 45

Arg Phe Glu Leu Tyr Ile Ala Pro Leu Tyr Glu Glu Leu Lys Lys Phe
50 55 60

Pro Arg Lys Ser Ala Glu Ser Asn Ala Leu Arg Gln Lys Ile Arg Glu
65 70 75 80

Gly Tyr Lys Glu His Ile Pro Thr Phe Phe Asp Gln Leu Lys Lys Leu
85 90 95

Leu Thr Pro Met Arg Lys Glu Asp Pro Ala Leu Leu Gly Ser Val Pro
100 105 110

Arg Ala Tyr Gln Glu Glu Thr Leu Asn Thr Leu Asn Gly Ser Phe Val

```
        115                 120                 125

Ser Phe Met Thr Leu Arg Arg Asn Asn Asp Met Asp Ala Lys Pro Pro
    130                 135                 140

Lys Gly Arg Ala Glu Asp Arg Phe His Glu Ile Ser Gly Arg Ser Gly
145                 150                 155                 160

Phe Lys Ile Asp Gly Ser Glu Phe Val Leu Ser Thr Lys Glu Gln Lys
                165                 170                 175

Leu Arg Phe Pro Ile Pro Asn Tyr Gln Leu Glu Lys Leu Lys Glu Ala
            180                 185                 190

Lys Gln Ile Lys Lys Phe Thr Leu Tyr Gln Ser Arg Asp Arg Arg Phe
        195                 200                 205

Trp Ile Ser Ile Ala Tyr Glu Ile Glu Leu Pro Asp Gln Arg Pro Phe
    210                 215                 220

Asn Pro Glu Glu Val Ile Tyr Ile Ala Phe Gly Ala Ser Ser Ile Gly
225                 230                 235                 240

Val Ile Ser Pro Glu Gly Glu Lys Val Ile Asp Phe Trp Arg Pro Asp
                245                 250                 255

Lys His Trp Lys Pro Lys Ile Lys Glu Val Glu Asn Arg Met Arg Ser
            260                 265                 270

Cys Lys Lys Gly Ser Arg Ala Trp Lys Lys Arg Ala Ala Ala Arg Arg
        275                 280                 285

Lys Met Tyr Ala Met Thr Gln Arg Gln Gln Lys Leu Asn His Arg Glu
    290                 295                 300

Ile Val Ala Ser Leu Leu Arg Leu Gly Phe His Phe Val Val Thr Glu
305                 310                 315                 320

Tyr Thr Val Arg Ser Lys Pro Gly Lys Leu Ala Asp Gly Ser Asn Pro
                325                 330                 335
```

```
Lys Arg Gly Gly Ala Pro Gln Gly Phe Asn Trp Ser Ala Gln Asn Thr
            340                 345                 350

Gly Ser Phe Gly Glu Phe Ile Leu Trp Leu Lys Gln Lys Val Lys Glu
        355                 360                 365

Gln Gly Gly Thr Val Gln Thr Phe Arg Leu Val Leu Gly Gln Ser Glu
    370                 375                 380

Arg Pro Glu Lys Arg Gly Arg Asp Asn Lys Ile Glu Met Val Arg Leu
385                 390                 395                 400

Leu Arg Glu Lys Tyr Leu Glu Ser Gln Thr Ile Val Val
                405                 410
```

<210> 35
<211> 449
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 35

```
Met Ala Lys Gly Lys Lys Lys Glu Gly Lys Pro Leu Tyr Arg Ala Val
1               5                   10                  15

Arg Phe Glu Ile Phe Pro Thr Ser Asp Gln Ile Thr Leu Phe Leu Arg
            20                  25                  30

Val Ser Lys Asn Leu Gln Gln Val Trp Asn Glu Ala Trp Gln Glu Arg
        35                  40                  45

Gln Ser Cys Tyr Glu Gln Phe Phe Gly Ser Ile Tyr Glu Arg Ile Gly
    50                  55                  60

Gln Ala Lys Lys Arg Ala Gln Glu Ala Gly Phe Ser Glu Val Trp Glu
65                  70                  75                  80

Asn Glu Ala Lys Lys Gly Leu Asn Lys Lys Leu Arg Gln Gln Glu Ile
                85                  90                  95
```

```
Ser Met Gln Leu Val Ser Glu Lys Glu Ser Leu Leu Gln Glu Leu Ser
            100                 105                 110

Ile Ala Phe Gln Glu His Gly Val Thr Leu Tyr Asp Gln Ile Asn Gly
        115                 120                 125

Leu Thr Ala Arg Arg Ile Ile Gly Glu Phe Ala Leu Ile Pro Arg Asn
    130                 135                 140

Trp Gln Glu Glu Thr Leu Asp Ser Leu Asp Gly Ser Phe Lys Ser Phe
145                 150                 155                 160

Leu Ala Leu Arg Lys Asn Gly Asp Pro Asp Ala Lys Pro Pro Arg Gln
                165                 170                 175

Arg Val Ser Glu Asn Ser Phe Tyr Lys Ile Pro Gly Arg Ser Gly Phe
            180                 185                 190

Lys Val Ser Asn Gly Gln Ile Tyr Leu Ser Phe Gly Lys Ile Gly Gln
        195                 200                 205

Thr Leu Thr Ser Val Ile Pro Glu Phe Gln Leu Lys Arg Leu Glu Thr
    210                 215                 220

Ala Ile Lys Leu Lys Lys Phe Glu Leu Cys Arg Asp Glu Arg Asp Met
225                 230                 235                 240

Ala Lys Pro Gly Arg Phe Trp Ile Ser Val Ala Tyr Glu Ile Pro Lys
                245                 250                 255

Pro Glu Lys Val Pro Val Val Ser Lys Gln Ile Thr Tyr Leu Ala Ile
            260                 265                 270

Gly Ala Ser Arg Leu Gly Val Val Ser Pro Lys Gly Glu Phe Cys Leu
        275                 280                 285

Asn Leu Pro Arg Ser Asp Tyr His Trp Lys Pro Gln Ile Asn Ala Leu
    290                 295                 300

Gln Glu Arg Leu Glu Gly Val Val Lys Gly Ser Arg Lys Trp Lys Lys
```

305 310 315 320

Arg Met Ala Ala Cys Thr Arg Met Phe Ala Lys Leu Gly His Gln Gln
325 330 335

Lys Gln His Gly Gln Tyr Glu Val Val Lys Lys Leu Leu Arg His Gly
340 345 350

Val His Phe Val Val Thr Glu Leu Lys Val Arg Ser Lys Pro Gly Ala
355 360 365

Leu Ala Asp Ala Ser Lys Ser Asp Arg Lys Gly Ser Pro Thr Gly Pro
370 375 380

Asn Trp Ser Ala Gln Asn Thr Gly Asn Ile Ala Arg Leu Ile Gln Lys
385 390 395 400

Leu Thr Asp Lys Ala Ser Glu His Gly Gly Thr Val Ile Lys Arg Asn
405 410 415

Pro Pro Leu Leu Ser Leu Glu Glu Arg Gln Leu Pro Asp Ala Gln Arg
420 425 430

Lys Ile Phe Ile Ala Lys Lys Leu Arg Glu Glu Phe Leu Ala Asp Gln
435 440 445

Lys

<210> 36
<211> 711
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 36

Met Ala Lys Arg Glu Lys Lys Asp Asp Val Val Leu Arg Gly Thr Lys
1 5 10 15

Met Arg Ile Tyr Pro Thr Asp Arg Gln Val Thr Leu Met Asp Met Trp

```
            20                  25                  30

Arg Arg Arg Cys Ile Ser Leu Trp Asn Leu Leu Leu Asn Leu Glu Thr
        35                  40                  45

Ala Ala Tyr Gly Ala Lys Asn Thr Arg Ser Lys Leu Gly Trp Arg Ser
    50                  55                  60

Ile Trp Ala Arg Val Val Glu Glu Asn His Ala Lys Ala Leu Ile Val
65                  70                  75                  80

Tyr Gln His Gly Lys Cys Lys Lys Asp Gly Ser Phe Val Leu Lys Arg
                85                  90                  95

Asp Gly Thr Val Lys His Pro Pro Arg Glu Arg Phe Pro Gly Asp Arg
            100                 105                 110

Lys Ile Leu Leu Gly Leu Phe Asp Ala Leu Arg His Thr Leu Asp Lys
        115                 120                 125

Gly Ala Lys Cys Lys Cys Asn Val Asn Gln Pro Tyr Ala Leu Thr Arg
    130                 135                 140

Ala Trp Leu Asp Glu Thr Gly His Gly Ala Arg Thr Ala Asp Ile Ile
145                 150                 155                 160

Ala Trp Leu Lys Asp Phe Lys Gly Glu Cys Asp Cys Thr Ala Ile Ser
                165                 170                 175

Thr Ala Ala Lys Tyr Cys Pro Ala Pro Pro Thr Ala Glu Leu Leu Thr
            180                 185                 190

Lys Ile Lys Arg Ala Ala Pro Ala Asp Asp Leu Pro Val Asp Gln Ala
        195                 200                 205

Ile Leu Leu Asp Leu Phe Gly Ala Leu Arg Gly Gly Leu Lys Gln Lys
    210                 215                 220

Glu Cys Asp His Thr His Ala Arg Thr Val Ala Tyr Phe Glu Lys His
225                 230                 235                 240
```

```
Glu Leu Ala Gly Arg Ala Glu Asp Ile Leu Ala Trp Leu Ile Ala His
                245                 250                 255

Gly Gly Thr Cys Asp Cys Lys Ile Val Glu Glu Ala Ala Asn His Cys
            260                 265                 270

Pro Gly Pro Arg Leu Phe Ile Trp Glu His Glu Leu Ala Met Ile Met
        275                 280                 285

Ala Arg Leu Lys Ala Glu Pro Arg Thr Glu Trp Ile Gly Asp Leu Pro
    290                 295                 300

Ser His Ala Ala Gln Thr Val Val Lys Asp Leu Val Lys Ala Leu Gln
305                 310                 315                 320

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

Arg Lys Thr Gly Phe Pro Lys Phe Lys Lys Gln Ala Tyr Ala Ala Gly
            340                 345                 350

Ser Val Tyr Phe Pro Asn Thr Thr Met Phe Phe Asp Val Ala Ala Gly
        355                 360                 365

Arg Val Gln Leu Pro Asn Gly Cys Gly Ser Met Arg Cys Glu Ile Pro
    370                 375                 380

Arg Gln Leu Val Ala Glu Leu Leu Glu Arg Asn Leu Lys Pro Gly Leu
385                 390                 395                 400

Val Ile Gly Ala Gln Leu Gly Leu Leu Gly Gly Arg Ile Trp Arg Gln
                405                 410                 415

Gly Asp Arg Trp Tyr Leu Ser Cys Gln Trp Glu Arg Pro Gln Pro Thr
            420                 425                 430

Leu Leu Pro Lys Thr Gly Arg Thr Ala Gly Val Lys Ile Ala Ala Ser
        435                 440                 445

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

```
    450                 455                 460

Met Pro Pro Ala Asp Lys Lys Leu Thr Ala Val His Leu Val Ala Gly
465                 470                 475                 480

Lys Gln Asn Ser Arg Ala Leu Glu Ala Gln Lys Glu Lys Glu Lys Lys
                485                 490                 495

Leu Lys Ala Arg Lys Glu Arg Leu Arg Leu Gly Lys Leu Glu Lys Gly
            500                 505                 510

His Asp Pro Asn Ala Leu Lys Pro Leu Lys Arg Pro Arg Val Arg Arg
        515                 520                 525

Ser Lys Leu Phe Tyr Lys Ser Ala Ala Arg Leu Ala Ala Cys Glu Ala
    530                 535                 540

Ile Glu Arg Asp Arg Arg Asp Gly Phe Leu His Arg Val Thr Asn Glu
545                 550                 555                 560

Ile Val His Lys Phe Asp Ala Val Ser Val Gln Lys Met Ser Val Ala
                565                 570                 575

Pro Met Met Arg Arg Gln Lys Gln Lys Glu Lys Gln Ile Glu Ser Lys
            580                 585                 590

Lys Asn Glu Ala Lys Lys Glu Asp Asn Gly Ala Ala Lys Lys Pro Arg
        595                 600                 605

Asn Leu Lys Pro Val Arg Lys Leu Leu Arg His Val Ala Met Ala Arg
    610                 615                 620

Gly Arg Gln Phe Leu Glu Tyr Lys Tyr Asn Asp Leu Arg Gly Pro Gly
625                 630                 635                 640

Ser Val Leu Ile Ala Asp Arg Leu Glu Pro Glu Val Gln Glu Cys Ser
                645                 650                 655

Arg Cys Gly Thr Lys Asn Pro Gln Met Lys Asp Gly Arg Arg Leu Leu
            660                 665                 670
```

Arg Cys Ile Gly Val Leu Pro Asp Gly Thr Asp Cys Asp Ala Val Leu
675 680 685

Pro Arg Asn Arg Asn Ala Ala Arg Asn Ala Glu Lys Arg Leu Arg Lys
690 695 700

His Arg Glu Ala His Asn Ala
705 710

<210> 37
<211> 574
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 37

Met Asn Glu Val Leu Pro Ile Pro Ala Val Gly Glu Asp Ala Ala Asp
1 5 10 15

Thr Ile Met Arg Gly Ser Lys Met Arg Ile Tyr Pro Ser Val Arg Gln
20 25 30

Ala Ala Thr Met Asp Leu Trp Arg Arg Arg Cys Ile Gln Leu Trp Asn
35 40 45

Leu Leu Leu Glu Leu Glu Gln Ala Ala Tyr Ser Gly Glu Asn Arg Arg
50 55 60

Thr Gln Ile Gly Trp Arg Ser Ile Trp Ala Thr Val Val Glu Asp Ser
65 70 75 80

His Ala Glu Ala Val Arg Val Ala Arg Glu Gly Lys Lys Arg Lys Asp
85 90 95

Gly Thr Phe Arg Lys Ala Pro Ser Gly Lys Glu Ile Pro Pro Leu Asp
100 105 110

Pro Ala Met Leu Ala Lys Ile Gln Arg Gln Met Asn Gly Ala Val Asp
115 120 125

```
Val Asp Pro Lys Thr Gly Glu Val Thr Pro Ala Gln Pro Arg Leu Phe
    130                 135                 140

Met Trp Glu His Glu Leu Gln Lys Ile Met Ala Arg Leu Lys Gln Ala
145                 150                 155                 160

Pro Arg Thr His Trp Ile Asp Asp Leu Pro Ser His Ala Ala Gln Ser
                165                 170                 175

Val Val Lys Asp Leu Ile Lys Ala Leu Gln Ala Met Leu Arg Glu Arg
            180                 185                 190

Lys Lys Arg Ala Ser Gly Ile Gly Gly Arg Asp Thr Gly Phe Pro Lys
        195                 200                 205

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

Gln Leu Arg Phe Glu Ala Lys Arg Gly Lys Ala Gly Asp Pro Asp Ala
225                 230                 235                 240

Val Arg Gly Glu Phe Ala Arg Val Lys Leu Pro Asn Gly Val Gly Trp
                245                 250                 255

Met Glu Cys Arg Met Pro Arg His Ile Asn Ala Ala His Ala Tyr Ala
            260                 265                 270

Gln Ala Thr Leu Met Gly Gly Arg Ile Trp Arg Gln Gly Glu Asn Trp
        275                 280                 285

Tyr Leu Ser Cys Gln Trp Lys Met Pro Lys Pro Ala Pro Leu Pro Arg
    290                 295                 300

Ala Gly Arg Thr Ala Ala Ile Lys Ile Ala Ala Ala Ile Pro Ile Thr
305                 310                 315                 320

Thr Val Asp Asn Arg Gly Gln Thr Arg Glu Tyr Ala Met Pro Pro Ile
                325                 330                 335

Asp Arg Glu Arg Ile Ala Ala His Ala Ala Ala Gly Arg Ala Gln Ser
```

```
            340                 345                 350

Arg Ala Leu Glu Ala Arg Lys Arg Arg Ala Lys Lys Arg Glu Ala Tyr
        355                 360                 365

Ala Lys Lys Arg His Ala Lys Lys Leu Glu Arg Gly Ile Ala Ala Lys
    370                 375                 380

Pro Pro Gly Arg Ala Arg Ile Lys Leu Ser Pro Gly Phe Tyr Ala Ala
385                 390                 395                 400

Ala Ala Lys Leu Ala Lys Leu Glu Ala Glu Asp Ala Asn Ala Arg Glu
                405                 410                 415

Ala Trp Leu His Glu Ile Thr Thr Gln Ile Val Arg Asn Phe Asp Val
            420                 425                 430

Ile Ala Val Pro Arg Met Glu Val Ala Lys Leu Met Lys Lys Pro Glu
        435                 440                 445

Pro Pro Glu Glu Lys Glu Glu Gln Val Lys Ala Pro Trp Gln Gly Lys
    450                 455                 460

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

Ala Leu Ile Gln Thr Thr Leu Lys Tyr Lys Ala Val Asp Leu Arg Gly
                485                 490                 495

Pro Gln Ala Tyr Glu Glu Ile Ala Pro Leu Asp Val Thr Ala Ala Ala
            500                 505                 510

Cys Ser Gly Cys Gly Val Leu Lys Pro Glu Trp Lys Met Ala Arg Ala
        515                 520                 525

Lys Gly Arg Glu Ile Met Arg Cys Gln Glu Pro Leu Pro Gly Gly Lys
    530                 535                 540

Thr Cys Asn Thr Val Leu Thr Tyr Thr Arg Asn Ser Ala Arg Val Ile
545                 550                 555                 560
```

Gly Arg Glu Leu Ala Val Arg Leu Ala Glu Arg Gln Lys Ala
565 570

<210> 38
<211> 400
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 38

Met Thr Thr Gln Lys Thr Tyr Asn Phe Cys Phe Tyr Asp Gln Arg Phe
1 5 10 15

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

Glu Phe Trp Lys Ile Tyr Asp Glu Thr Gly Val Trp Leu Ser Lys Phe
35 40 45

Asp Leu Gln Lys His Met Arg Asn Lys Leu Glu Arg Lys Leu Leu His
50 55 60

Ser Asp Ser Phe Leu Gly Ala Met Gln Gln Val His Ala Asn Leu Ala
65 70 75 80

Ser Trp Lys Gln Ala Lys Lys Val Val Pro Asp Ala Cys Pro Pro Arg
85 90 95

Lys Pro Lys Phe Leu Gln Ala Ile Leu Phe Lys Lys Ser Gln Ile Lys
100 105 110

Tyr Lys Asn Gly Phe Leu Arg Leu Thr Leu Gly Thr Glu Lys Glu Phe
115 120 125

Leu Tyr Leu Lys Trp Asp Ile Asn Ile Pro Leu Pro Ile Tyr Gly Ser
130 135 140

Val Thr Tyr Ser Lys Thr Arg Gly Trp Lys Ile Asn Leu Cys Leu Glu
145 150 155 160

```
Thr Glu Val Glu Gln Lys Asn Leu Ser Glu Asn Lys Tyr Leu Ser Ile
                165                 170                 175

Asp Leu Gly Val Lys Arg Val Ala Thr Ile Phe Asp Gly Glu Asn Thr
            180                 185                 190

Ile Thr Leu Ser Gly Lys Lys Phe Met Gly Leu Met His Tyr Arg Asn
        195                 200                 205

Lys Leu Asn Gly Lys Thr Gln Ser Arg Leu Ser His Lys Lys Lys Gly
    210                 215                 220

Ser Asn Asn Tyr Lys Lys Ile Gln Arg Ala Lys Arg Lys Thr Thr Asp
225                 230                 235                 240

Arg Leu Leu Asn Ile Gln Lys Glu Met Leu His Lys Tyr Ser Ser Phe
                245                 250                 255

Ile Val Asn Tyr Ala Ile Arg Asn Asp Ile Gly Asn Ile Ile Ile Gly
            260                 265                 270

Asp Asn Ser Ser Thr His Asp Ser Pro Asn Met Arg Gly Lys Thr Asn
        275                 280                 285

Gln Lys Ile Ser Gln Asn Pro Glu Gln Lys Leu Lys Asn Tyr Ile Lys
    290                 295                 300

Tyr Lys Phe Glu Ser Ile Ser Gly Arg Val Asp Ile Val Pro Glu Pro
305                 310                 315                 320

Tyr Thr Ser Arg Lys Cys Pro His Cys Lys Asn Ile Lys Lys Ser Ser
                325                 330                 335

Pro Lys Gly Arg Thr Tyr Lys Cys Lys Lys Cys Gly Phe Ile Phe Asp
            340                 345                 350

Arg Asp Gly Val Gly Ala Ile Asn Ile Tyr Asn Glu Asn Val Ser Phe
        355                 360                 365

Gly Gln Ile Ile Ser Pro Gly Arg Ile Arg Ser Leu Thr Glu Pro Ile
```

370 375 380

Gly Met Lys Phe His Asn Glu Ile Tyr Phe Lys Ser Tyr Val Ala Ala
385 390 395 400

<210> 39
<211> 743
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 39

Met Ser Val Arg Ser Phe Gln Ala Arg Val Glu Cys Asp Lys Gln Thr
1 5 10 15

Met Glu His Leu Trp Arg Thr His Lys Val Phe Asn Glu Arg Leu Pro
20 25 30

Glu Ile Ile Lys Ile Leu Phe Lys Met Lys Arg Gly Glu Cys Gly Gln
35 40 45

Asn Asp Lys Gln Lys Ser Leu Tyr Lys Ser Ile Ser Gln Ser Ile Leu
50 55 60

Glu Ala Asn Ala Gln Asn Ala Asp Tyr Leu Leu Asn Ser Val Ser Ile
65 70 75 80

Lys Gly Trp Lys Pro Gly Thr Ala Lys Lys Tyr Arg Asn Ala Ser Phe
85 90 95

Thr Trp Ala Asp Asp Ala Ala Lys Leu Ser Ser Gln Gly Ile His Val
100 105 110

Tyr Asp Lys Lys Gln Val Leu Gly Asp Leu Pro Gly Met Met Ser Gln
115 120 125

Met Val Cys Arg Gln Ser Val Glu Ala Ile Ser Gly His Ile Glu Leu
130 135 140

Thr Lys Lys Trp Glu Lys Glu His Asn Glu Trp Leu Lys Glu Lys Glu

```
145                 150                 155                 160

Lys Trp Glu Ser Glu Asp Glu His Lys Lys Tyr Leu Asp Leu Arg Glu
                165                 170                 175

Lys Phe Glu Gln Phe Glu Gln Ser Ile Gly Gly Lys Ile Thr Lys Arg
            180                 185                 190

Arg Gly Arg Trp His Leu Tyr Leu Lys Trp Leu Ser Asp Asn Pro Asp
        195                 200                 205

Phe Ala Ala Trp Arg Gly Asn Lys Ala Val Ile Asn Pro Leu Ser Glu
    210                 215                 220

Lys Ala Gln Ile Arg Ile Asn Lys Ala Lys Pro Asn Lys Lys Asn Ser
225                 230                 235                 240

Val Glu Arg Asp Glu Phe Phe Lys Ala Asn Pro Glu Met Lys Ala Leu
                245                 250                 255

Asp Asn Leu His Gly Tyr Tyr Glu Arg Asn Phe Val Arg Arg Arg Lys
            260                 265                 270

Thr Lys Lys Asn Pro Asp Gly Phe Asp His Lys Pro Thr Phe Thr Leu
        275                 280                 285

Pro His Pro Thr Ile His Pro Arg Trp Phe Val Phe Asn Lys Pro Lys
    290                 295                 300

Thr Asn Pro Glu Gly Tyr Arg Lys Leu Ile Leu Pro Lys Lys Ala Gly
305                 310                 315                 320

Asp Leu Gly Ser Leu Glu Met Arg Leu Leu Thr Gly Glu Lys Asn Lys
                325                 330                 335

Gly Asn Tyr Pro Asp Asp Trp Ile Ser Val Lys Phe Lys Ala Asp Pro
            340                 345                 350

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

```
Gly Lys Glu Gln Gly Gln Thr Lys Glu Thr Asp Ser Tyr Glu Phe Phe
    370                 375                 380

Asp Lys His Leu Lys Lys Trp Arg Pro Ala Lys Leu Ser Gly Val Lys
385                 390                 395                 400

Leu Ile Phe Pro Asp Lys Thr Pro Lys Ala Ala Tyr Leu Tyr Phe Thr
                405                 410                 415

Cys Asp Ile Pro Asp Glu Pro Leu Thr Glu Thr Ala Lys Lys Ile Gln
            420                 425                 430

Trp Leu Glu Thr Gly Asp Val Thr Lys Lys Gly Lys Lys Arg Lys Lys
        435                 440                 445

Lys Val Leu Pro His Gly Leu Val Ser Cys Ala Val Asp Leu Ser Met
    450                 455                 460

Arg Arg Gly Thr Thr Gly Phe Ala Thr Leu Cys Arg Tyr Glu Asn Gly
465                 470                 475                 480

Lys Ile His Ile Leu Arg Ser Arg Asn Leu Trp Val Gly Tyr Lys Glu
                485                 490                 495

Gly Lys Gly Cys His Pro Tyr Arg Trp Thr Glu Gly Pro Asp Leu Gly
            500                 505                 510

His Ile Ala Lys His Lys Arg Glu Ile Arg Ile Leu Arg Ser Lys Arg
        515                 520                 525

Gly Lys Pro Val Lys Gly Glu Glu Ser His Ile Asp Leu Gln Lys His
    530                 535                 540

Ile Asp Tyr Met Gly Glu Asp Arg Phe Lys Lys Ala Ala Arg Thr Ile
545                 550                 555                 560

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

Tyr Pro Arg Ala Asp Val Leu Leu Leu Glu Asn Leu Glu Gly Leu Ile
```

580 585 590

Pro Asp Ala Glu Lys Glu Arg Gly Ile Asn Arg Ala Leu Ala Gly Trp
595 600 605

Asn Arg Arg His Leu Val Glu Arg Val Ile Glu Met Ala Lys Asp Ala
610 615 620

Gly Phe Lys Arg Arg Val Phe Glu Ile Pro Pro Tyr Gly Thr Ser Gln
625 630 635 640

Val Cys Ser Lys Cys Gly Ala Leu Gly Arg Arg Tyr Ser Ile Ile Arg
645 650 655

Glu Asn Asn Arg Arg Glu Ile Arg Phe Gly Tyr Val Glu Lys Leu Phe
660 665 670

Ala Cys Pro Asn Cys Gly Tyr Cys Ala Asn Ala Asp His Asn Ala Ser
675 680 685

Val Asn Leu Asn Arg Arg Phe Leu Ile Glu Asp Ser Phe Lys Ser Tyr
690 695 700

Tyr Asp Trp Lys Arg Leu Ser Glu Lys Lys Gln Lys Glu Glu Ile Glu
705 710 715 720

Thr Ile Glu Ser Lys Leu Met Asp Lys Leu Cys Ala Met His Lys Ile
725 730 735

Ser Arg Gly Ser Ile Ser Lys
740

<210> 40
<211> 769
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 40

Met His Leu Trp Arg Thr His Cys Val Phe Asn Gln Arg Leu Pro Ala

```
1               5                   10                  15

Leu Leu Lys Arg Leu Phe Ala Met Arg Arg Gly Glu Val Gly Gly Asn
            20                  25                  30

Glu Ala Gln Arg Gln Val Tyr Gln Arg Val Ala Gln Phe Val Leu Ala
        35                  40                  45

Arg Asp Ala Lys Asp Ser Val Asp Leu Leu Asn Ala Val Ser Leu Arg
    50                  55                  60

Lys Arg Ser Ala Asn Ser Ala Phe Lys Lys Lys Ala Thr Ile Ser Cys
65                  70                  75                  80

Asn Gly Gln Ala Arg Glu Val Thr Gly Glu Glu Val Phe Ala Glu Ala
                85                  90                  95

Val Ala Leu Ala Ser Lys Gly Val Phe Ala Tyr Asp Lys Asp Asp Met
            100                 105                 110

Arg Ala Gly Leu Pro Asp Ser Leu Phe Gln Pro Leu Thr Arg Asp Ala
        115                 120                 125

Val Ala Cys Met Arg Ser His Glu Glu Leu Val Ala Thr Trp Lys Lys
    130                 135                 140

Glu Tyr Arg Glu Trp Arg Asp Arg Lys Ser Glu Trp Glu Ala Glu Pro
145                 150                 155                 160

Glu His Ala Leu Tyr Leu Asn Leu Arg Pro Lys Phe Glu Glu Gly Glu
                165                 170                 175

Ala Ala Arg Gly Gly Arg Phe Arg Lys Arg Ala Glu Arg Asp His Ala
            180                 185                 190

Tyr Leu Asp Trp Leu Glu Ala Asn Pro Gln Leu Ala Ala Trp Arg Arg
        195                 200                 205

Lys Ala Pro Pro Ala Val Val Pro Ile Asp Glu Ala Gly Lys Arg Arg
    210                 215                 220
```

```
Ile Ala Arg Ala Lys Ala Trp Lys Gln Ala Ser Val Arg Ala Glu Glu
225                 230                 235                 240

Phe Trp Lys Arg Asn Pro Glu Leu His Ala Leu His Lys Ile His Val
                245                 250                 255

Gln Tyr Leu Arg Glu Phe Val Arg Pro Arg Arg Thr Arg Arg Asn Lys
            260                 265                 270

Arg Arg Glu Gly Phe Lys Gln Arg Pro Thr Phe Thr Met Pro Asp Pro
        275                 280                 285

Val Arg His Pro Arg Trp Cys Leu Phe Asn Ala Pro Gln Thr Ser Pro
    290                 295                 300

Gln Gly Tyr Arg Leu Leu Arg Leu Pro Gln Ser Arg Arg Thr Val Gly
305                 310                 315                 320

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

Pro Asp Ala Trp Val Asn Val Arg Phe Lys Ala Asp Pro Arg Leu Ala
            340                 345                 350

Gln Leu Arg Pro Val Lys Val Pro Arg Thr Val Thr Arg Gly Lys Asn
        355                 360                 365

Lys Gly Ala Lys Val Glu Ala Asp Gly Phe Arg Tyr Tyr Asp Asp Gln
    370                 375                 380

Leu Leu Ile Glu Arg Asp Ala Gln Val Ser Gly Val Lys Leu Leu Phe
385                 390                 395                 400

Arg Asp Ile Arg Met Ala Pro Phe Ala Asp Lys Pro Ile Glu Asp Arg
                405                 410                 415

Leu Leu Ser Ala Thr Pro Tyr Leu Val Phe Ala Val Glu Ile Lys Asp
            420                 425                 430

Glu Ala Arg Thr Glu Arg Ala Lys Ala Ile Arg Phe Asp Glu Thr Ser
```

```
        435                 440                 445

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

Val Ser Val Ala Val Asp Leu Asp Thr Arg Gly Val Gly Phe Leu Thr
465                 470                 475                 480

Arg Ala Val Ile Gly Val Pro Glu Ile Gln Gln Thr His His Gly Val
                485                 490                 495

Arg Leu Leu Gln Ser Arg Tyr Val Ala Val Gly Gln Val Glu Ala Arg
            500                 505                 510

Ala Ser Gly Glu Ala Glu Trp Ser Pro Gly Pro Asp Leu Ala His Ile
        515                 520                 525

Ala Arg His Lys Arg Glu Ile Arg Arg Leu Arg Gln Leu Arg Gly Lys
    530                 535                 540

Pro Val Lys Gly Glu Arg Ser His Val Arg Leu Gln Ala His Ile Asp
545                 550                 555                 560

Arg Met Gly Glu Asp Arg Phe Lys Lys Ala Ala Arg Lys Ile Val Asn
                565                 570                 575

Glu Ala Leu Arg Gly Ser Asn Pro Ala Ala Gly Asp Pro Tyr Thr Arg
            580                 585                 590

Ala Asp Val Leu Leu Tyr Glu Ser Leu Glu Thr Leu Leu Pro Asp Ala
        595                 600                 605

Glu Arg Glu Arg Gly Ile Asn Arg Ala Leu Leu Arg Trp Asn Arg Ala
    610                 615                 620

Lys Leu Ile Glu His Leu Lys Arg Met Cys Asp Asp Ala Gly Ile Arg
625                 630                 635                 640

His Phe Pro Val Ser Pro Phe Gly Thr Ser Gln Val Cys Ser Lys Cys
                645                 650                 655
```

Gly Ala Leu Gly Arg Arg Tyr Ser Leu Ala Arg Glu Asn Gly Arg Ala
660 665 670

Val Ile Arg Phe Gly Trp Val Glu Arg Leu Phe Ala Cys Pro Asn Pro
675 680 685

Glu Cys Pro Gly Arg Arg Pro Asp Arg Pro Asp Arg Pro Phe Thr Cys
690 695 700

Asn Ser Asp His Asn Ala Ser Val Asn Leu His Arg Val Phe Ala Leu
705 710 715 720

Gly Asp Gln Ala Val Ala Ala Phe Arg Ala Leu Ala Pro Arg Asp Ser
725 730 735

Pro Ala Arg Thr Leu Ala Val Lys Arg Val Glu Asp Thr Leu Arg Pro
740 745 750

Gln Leu Met Arg Val His Lys Leu Ala Asp Ala Gly Val Asp Ser Pro
755 760 765

Phe

<210> 41
<211> 666
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 41

Met Ala Thr Leu Val Tyr Arg Tyr Gly Val Arg Ala His Gly Ser Ala
1 5 10 15

Arg Gln Gln Asp Ala Val Val Ser Asp Pro Ala Met Leu Glu Gln Leu
20 25 30

Arg Leu Gly His Glu Leu Arg Asn Ala Leu Val Gly Val Gln His Arg
35 40 45

```
Tyr Glu Asp Gly Lys Arg Ala Val Trp Ser Gly Phe Ala Ser Val Ala
    50                  55                  60

Ala Ala Asp His Arg Val Thr Thr Gly Glu Thr Ala Val Ala Glu Leu
65                  70                  75                  80

Glu Lys Gln Ala Arg Ala Glu His Ser Ala Asp Arg Thr Ala Ala Thr
                85                  90                  95

Arg Gln Gly Thr Ala Glu Ser Leu Lys Ala Ala Arg Ala Ala Val Lys
            100                 105                 110

Gln Ala Arg Ala Asp Arg Lys Ala Ala Met Ala Ala Val Ala Glu Gln
        115                 120                 125

Ala Lys Pro Lys Ile Gln Ala Leu Gly Asp Asp Arg Asp Ala Glu Ile
    130                 135                 140

Lys Asp Leu Tyr Arg Arg Phe Cys Gln Asp Gly Val Leu Leu Pro Arg
145                 150                 155                 160

Cys Gly Arg Cys Ala Gly Asp Leu Arg Ser Asp Gly Asp Cys Thr Asp
                165                 170                 175

Cys Gly Ala Ala His Glu Pro Arg Lys Leu Tyr Trp Ala Thr Tyr Asn
            180                 185                 190

Ala Ile Arg Glu Asp His Gln Thr Ala Val Lys Leu Val Glu Ala Lys
        195                 200                 205

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

Asp Gly Thr Leu Thr Val Gln Leu Gln Arg Met His Gly Pro Ala Cys
225                 230                 235                 240

Arg Cys Val Thr Cys Ala Glu Lys Leu Thr Arg Arg Ala Arg Lys Thr
                245                 250                 255

Asp Pro Gln Ala Pro Ala Val Ala Ala Asp Pro Ala Tyr Pro Pro Thr
```

```
            260                 265                 270

Asp Pro Pro Arg Asp Pro Ala Leu Leu Ala Ser Gly Gln Gly Lys Trp
        275                 280                 285

Arg Asn Val Leu Gln Leu Gly Thr Trp Ile Pro Pro Gly Glu Trp Ser
    290                 295                 300

Ala Met Ser Arg Ala Glu Arg Arg Arg Val Gly Arg Ser His Ile Gly
305                 310                 315                 320

Trp Gln Leu Gly Gly Gly Arg Gln Leu Thr Leu Pro Val Gln Leu His
                325                 330                 335

Arg Gln Met Pro Ala Asp Ala Asp Val Ala Met Ala Gln Leu Thr Arg
            340                 345                 350

Val Arg Val Gly Gly Arg His Arg Met Ser Val Ala Leu Thr Ala Lys
        355                 360                 365

Leu Pro Asp Pro Pro Gln Val Gln Gly Leu Pro Pro Val Ala Leu His
    370                 375                 380

Leu Gly Trp Arg Gln Arg Pro Asp Gly Ser Leu Arg Val Ala Thr Trp
385                 390                 395                 400

Ala Cys Pro Gln Pro Leu Asp Leu Pro Pro Ala Val Ala Asp Val Val
                405                 410                 415

Val Ser His Gly Gly Arg Trp Gly Glu Val Ile Met Pro Ala Arg Trp
            420                 425                 430

Leu Ala Asp Ala Glu Val Pro Pro Arg Leu Leu Gly Arg Arg Asp Lys
        435                 440                 445

Ala Met Glu Pro Val Leu Glu Ala Leu Ala Asp Trp Leu Glu Ala His
    450                 455                 460

Thr Glu Ala Cys Thr Ala Arg Met Thr Pro Ala Leu Val Arg Arg Trp
465                 470                 475                 480
```

```
Arg Ser Gln Gly Arg Leu Ala Gly Leu Thr Asn Arg Trp Arg Gly Gln
                485                 490                 495

Pro Pro Thr Gly Ser Ala Glu Ile Leu Thr Tyr Leu Glu Ala Trp Arg
            500                 505                 510

Ile Gln Asp Lys Leu Leu Trp Glu Arg Glu Ser His Leu Arg Arg Arg
        515                 520                 525

Leu Ala Ala Arg Arg Asp Asp Ala Trp Arg Arg Val Ala Ser Trp Leu
    530                 535                 540

Ala Arg His Ala Gly Val Leu Val Val Asp Asp Ala Asp Ile Ala Glu
545                 550                 555                 560

Leu Arg Arg Arg Asp Asp Pro Ala Asp Thr Asp Pro Thr Met Pro Ala
                565                 570                 575

Ser Ala Ala Gln Ala Ala Arg Ala Arg Ala Ala Leu Ala Ala Pro Gly
            580                 585                 590

Arg Leu Arg His Leu Ala Thr Ile Thr Ala Thr Arg Asp Gly Leu Gly
        595                 600                 605

Val His Thr Val Ala Ser Ala Gly Leu Thr Arg Leu His Arg Lys Cys
    610                 615                 620

Gly His Gln Ala Gln Pro Asp Pro Arg Tyr Ala Ala Ser Ala Val Val
625                 630                 635                 640

Thr Cys Pro Gly Cys Gly Asn Gly Tyr Asp Gln Asp Tyr Asn Ala Ala
                645                 650                 655

Met Leu Met Leu Asp Arg Gln Gln Gln Pro
            660                 665
```

<210> 42
<211> 564
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 42

Met Ser Arg Val Glu Leu His Arg Ala Tyr Lys Phe Arg Leu Tyr Pro
1   5   10   15

Thr Pro Ala Gln Val Ala Glu Leu Ala Glu Trp Glu Arg Gln Leu Arg
            20   25   30

Arg Leu Tyr Asn Leu Ala His Ser Gln Arg Leu Ala Ala Met Gln Arg
        35   40   45

His Val Arg Pro Lys Ser Pro Gly Val Leu Lys Ser Glu Cys Leu Ser
    50   55   60

Cys Gly Ala Val Ala Val Ala Glu Ile Gly Thr Asp Gly Lys Ala Lys
65   70   75   80

Lys Thr Val Lys His Ala Val Gly Cys Ser Val Leu Glu Cys Arg Ser
                85   90   95

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

Cys Ser Phe Val Asp Tyr Tyr Arg Gln Gly Arg Glu Met Thr Gln Leu
        115   120   125

Leu Glu Glu Asp Asp Gln Leu Ala Arg Val Val Cys Ser Ala Arg Gln
    130   135   140

Glu Thr Leu Arg Asp Leu Glu Lys Ala Trp Gln Arg Trp His Lys Met
145   150   155   160

Pro Gly Phe Gly Lys Pro His Phe Lys Lys Arg Ile Asp Ser Cys Arg
                165   170   175

Ile Tyr Phe Ser Thr Pro Lys Ser Trp Ala Val Asp Leu Gly Tyr Leu
            180   185   190

Ser Phe Thr Gly Val Ala Ser Ser Val Gly Arg Ile Lys Ile Arg Gln

```
        195                 200                 205

Asp Arg Val Trp Pro Gly Asp Ala Lys Phe Ser Ser Cys His Val Val
    210                 215                 220

Arg Asp Val Asp Glu Trp Tyr Ala Val Phe Pro Leu Thr Phe Thr Lys
225                 230                 235                 240

Glu Ile Glu Lys Pro Lys Gly Gly Ala Val Gly Ile Asn Arg Gly Ala
                245                 250                 255

Val His Ala Ile Ala Asp Ser Thr Gly Arg Val Val Asp Ser Pro Lys
            260                 265                 270

Phe Tyr Ala Arg Ser Leu Gly Val Ile Arg His Arg Ala Arg Leu Leu
        275                 280                 285

Asp Arg Lys Val Pro Phe Gly Arg Ala Val Lys Pro Ser Pro Thr Lys
    290                 295                 300

Tyr His Gly Leu Pro Lys Ala Asp Ile Asp Ala Ala Ala Ala Arg Val
305                 310                 315                 320

Asn Ala Ser Pro Gly Arg Leu Val Tyr Glu Ala Arg Ala Arg Gly Ser
                325                 330                 335

Ile Ala Ala Ala Glu Ala His Leu Ala Ala Leu Val Leu Pro Ala Pro
            340                 345                 350

Arg Gln Thr Ser Gln Leu Pro Ser Glu Gly Arg Asn Arg Glu Arg Ala
        355                 360                 365

Arg Arg Phe Leu Ala Leu Ala His Gln Arg Val Arg Arg Gln Arg Glu
    370                 375                 380

Trp Phe Leu His Asn Glu Ser Ala His Tyr Ala Gln Ser Tyr Thr Lys
385                 390                 395                 400

Ile Ala Ile Glu Asp Trp Ser Thr Lys Glu Met Thr Ser Ser Glu Pro
                405                 410                 415
```

```
Arg Asp Ala Glu Glu Met Lys Arg Val Thr Arg Ala Arg Asn Arg Ser
            420                 425                 430

Ile Leu Asp Val Gly Trp Tyr Glu Leu Gly Arg Gln Ile Ala Tyr Lys
        435                 440                 445

Ser Glu Ala Thr Gly Ala Glu Phe Ala Lys Val Asp Pro Gly Leu Arg
    450                 455                 460

Glu Thr Glu Thr His Val Pro Glu Ala Ile Val Arg Glu Arg Asp Val
465                 470                 475                 480

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

Ser Arg Cys Gly Gly Leu Leu Arg Ala Ser Ala Ser Gly His Ala Asp
            500                 505                 510

Ala Glu Cys Glu Val Cys Leu His Val Glu Val Gly Asp Val Asn Ala
        515                 520                 525

Ala Val Asn Val Leu Lys Arg Ala Met Phe Pro Gly Ala Ala Pro Pro
    530                 535                 540

Ser Lys Glu Lys Ala Lys Val Thr Ile Gly Ile Lys Gly Arg Lys Lys
545                 550                 555                 560

Lys Arg Ala Ala
```

<210> 43
<211> 565
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 43

```
Met Ser Arg Val Glu Leu His Arg Ala Tyr Lys Phe Arg Leu Tyr Pro
1               5                   10                  15
```

```
Thr Pro Val Gln Val Ala Glu Leu Ser Glu Trp Glu Arg Gln Leu Arg
            20                  25                  30

Arg Leu Tyr Asn Leu Gly His Glu Gln Arg Leu Leu Thr Leu Thr Arg
        35                  40                  45

His Leu Arg Pro Lys Ser Pro Gly Val Leu Lys Gly Glu Cys Leu Ser
    50                  55                  60

Cys Asp Ser Thr Gln Val Gln Glu Val Gly Ala Asp Gly Arg Pro Lys
65                  70                  75                  80

Thr Thr Val Arg His Ala Glu Gln Cys Pro Thr Leu Ala Cys Arg Ser
                85                  90                  95

Cys Gly Ala Leu Arg Asp Ala Glu Gly Arg Thr Ala His Thr Val Ala
            100                 105                 110

Cys Ala Phe Val Asp Tyr Tyr Arg Gln Gly Arg Glu Met Thr Glu Leu
        115                 120                 125

Leu Ala Ala Asp Asp Gln Leu Ala Arg Val Val Cys Ser Ala Arg Gln
    130                 135                 140

Glu Val Leu Arg Asp Leu Asp Lys Ala Trp Gln Arg Trp Arg Lys Met
145                 150                 155                 160

Pro Gly Phe Gly Lys Pro Arg Phe Lys Arg Arg Thr Asp Ser Cys Arg
                165                 170                 175

Ile Tyr Phe Ser Thr Pro Lys Ala Trp Lys Leu Glu Gly Gly His Leu
            180                 185                 190

Ser Phe Thr Gly Ala Ala Thr Thr Val Gly Ala Ile Lys Met Arg Gln
        195                 200                 205

Asp Arg Asn Trp Pro Ala Ser Val Gln Phe Ser Ser Cys His Val Val
    210                 215                 220

Arg Asp Val Asp Glu Trp Tyr Ala Val Phe Pro Leu Thr Phe Val Ala
```

225 230 235 240

Glu Val Ala Arg Pro Lys Gly Gly Ala Val Gly Ile Asn Arg Gly Ala
245 250 255

Val His Ala Ile Ala Asp Ser Thr Gly Arg Val Val Asp Ser Pro Arg
260 265 270

Tyr Tyr Ala Arg Ala Leu Gly Val Ile Arg His Arg Ala Arg Leu Phe
275 280 285

Asp Arg Lys Val Pro Ser Gly His Ala Val Lys Pro Ser Pro Thr Lys
290 295 300

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

Gly Phe Thr Pro Gly Arg Val Val Thr Glu Ala Leu Asn Arg Gly Gly
325 330 335

Val Ala Tyr Ala Glu Cys Ala Leu Ala Ala Ile Ala Val Leu Gly His
340 345 350

Gly Pro Glu Arg Pro Leu Thr Ser Asp Gly Arg Asn Arg Glu Lys Ala
355 360 365

Arg Lys Phe Leu Ala Leu Ala His Gln Arg Val Arg Arg Gln Arg Glu
370 375 380

Trp Phe Leu His Asn Glu Ser Ala His Tyr Ala Arg Thr Tyr Ser Lys
385 390 395 400

Ile Ala Ile Glu Asp Trp Ser Thr Lys Glu Met Thr Ala Ser Glu Pro
405 410 415

Gln Gly Glu Glu Thr Arg Arg Val Thr Arg Ser Arg Asn Arg Ser Ile
420 425 430

Leu Asp Val Gly Trp Tyr Glu Leu Gly Arg Gln Leu Ala Tyr Lys Thr
435 440 445

```
Glu Ala Thr Gly Ala Glu Phe Ala Gln Val Asp Pro Gly Leu Lys Glu
    450                 455                 460

Thr Glu Thr Asn Val Pro Lys Ala Ile Ala Asp Ala Arg Asp Val Asp
465                 470                 475                 480

Val Ser Gly Met Leu Arg Gly Glu Ala Gly Ile Ser Gly Thr Cys Ser
                485                 490                 495

Lys Cys Gly Gly Leu Leu Arg Ala Pro Ala Ser Gly His Ala Asp Ala
            500                 505                 510

Glu Cys Glu Ile Cys Leu Asn Val Glu Val Gly Asp Val Asn Ala Ala
        515                 520                 525

Val Asn Val Leu Lys Arg Ala Met Phe Pro Gly Asp Ala Pro Pro Ala
    530                 535                 540

Ser Gly Glu Lys Pro Lys Val Ser Ile Gly Ile Lys Gly Arg Gln Lys
545                 550                 555                 560

Lys Lys Lys Ala Ala
                565
```

<210> 44
<211> 499
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 44

```
Met Glu Ala Ile Ala Thr Gly Met Ser Pro Glu Arg Arg Val Glu Leu
1               5                   10                  15

Gly Ile Leu Pro Gly Ser Val Glu Leu Lys Arg Ala Tyr Lys Phe Arg
            20                  25                  30

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

```
Gln Leu Arg Arg Leu Tyr Asn Leu Ala His Glu Gln Arg Leu Ala Ala
    50                  55                  60

Leu Leu Arg Tyr Arg Asp Trp Asp Phe Gln Lys Gly Ala Cys Pro Ser
65                  70                  75                  80

Cys Arg Val Ala Val Pro Gly Val His Thr Ala Ala Cys Asp His Val
                85                  90                  95

Asp Tyr Phe Arg Gln Ala Arg Glu Met Thr Gln Leu Leu Glu Val Asp
            100                 105                 110

Ala Gln Leu Ser Arg Val Ile Cys Cys Ala Arg Gln Glu Val Leu Arg
        115                 120                 125

Asp Leu Asp Lys Ala Trp Gln Arg Trp Arg Lys Lys Leu Gly Gly Arg
    130                 135                 140

Pro Arg Phe Lys Arg Arg Thr Asp Ser Cys Arg Ile Tyr Leu Ser Thr
145                 150                 155                 160

Pro Lys His Trp Glu Ile Ala Gly Arg Tyr Leu Arg Leu Ser Gly Leu
                165                 170                 175

Ala Ser Ser Val Gly Glu Ile Arg Ile Glu Gln Asp Arg Ala Phe Pro
            180                 185                 190

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

Trp Tyr Ala Cys Leu Pro Leu Thr Phe Thr Gln Pro Ile Glu Arg Ala
    210                 215                 220

Pro His Arg Ser Val Gly Leu Asn Arg Gly Val Val His Ala Leu Ala
225                 230                 235                 240

Asp Ser Asp Gly Arg Val Val Asp Ser Pro Lys Phe Phe Glu Arg Ala
                245                 250                 255

Leu Ala Thr Val Gln Lys Arg Ser Arg Asp Leu Ala Arg Lys Val Ser
```

```
            260                 265                 270

Gly Ser Arg Asn Ala His Lys Ala Arg Ile Lys Leu Ala Lys Ala His
        275                 280                 285

Gln Arg Val Arg Arg Gln Arg Ala Ala Phe Leu His Gln Glu Ser Ala
    290                 295                 300

Tyr Tyr Ser Lys Gly Phe Asp Leu Val Ala Leu Glu Asp Met Ser Val
305                 310                 315                 320

Arg Lys Met Thr Ala Thr Ala Gly Glu Ala Pro Glu Met Gly Arg Gly
                325                 330                 335

Ala Gln Arg Asp Leu Asn Arg Gly Ile Leu Asp Val Gly Trp Tyr Glu
            340                 345                 350

Leu Ala Arg Gln Ile Asp Tyr Lys Arg Leu Ala His Gly Gly Glu Leu
        355                 360                 365

Leu Arg Val Asp Pro Gly Gln Thr Thr Pro Leu Ala Cys Val Thr Glu
    370                 375                 380

Glu Gln Pro Ala Arg Gly Ile Ser Ser Ala Cys Ala Val Cys Gly Ile
385                 390                 395                 400

Pro Leu Ala Arg Pro Ala Ser Gly Asn Ala Arg Met Arg Cys Thr Ala
                405                 410                 415

Cys Gly Ser Ser Gln Val Gly Asp Val Asn Ala Ala Glu Asn Val Leu
            420                 425                 430

Thr Arg Ala Leu Ser Ser Ala Pro Ser Gly Pro Lys Ser Pro Lys Ala
        435                 440                 445

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

Arg Ala Gly Glu Ala Ser Gly Gly Asp Pro Pro Val Arg Gly Pro Val
465                 470                 475                 480
```

Glu Gly Gly Thr Leu Ala Tyr Val Val Glu Pro Val Ser Glu Ser Gln
485 490 495

Ser Asp Thr

<210> 45
<211> 560
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 45

Met Thr Val Arg Thr Tyr Lys Tyr Arg Ala Tyr Pro Thr Pro Glu Gln
1 5 10 15

Ala Glu Ala Leu Thr Ser Trp Leu Arg Phe Ala Ser Gln Leu Tyr Asn
20 25 30

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

Gly Arg Gly Phe Arg Phe Trp Asp Gly Asp Ala Ala Pro Arg Lys Lys
50 55 60

Ser Asp Pro Pro Gly Arg Trp Val Tyr Arg Gly Gly Gly Gly Ala His
65 70 75 80

Ile Ser Lys Asn Asp Gln Gly Lys Leu Leu Thr Glu Phe Arg Arg Glu
85 90 95

His Ala Glu Leu Leu Pro Pro Gly Met Pro Ala Leu Val Gln His Glu
100 105 110

Val Leu Ala Arg Leu Glu Arg Ser Met Ala Ala Phe Phe Gln Arg Ala
115 120 125

Thr Lys Gly Gln Lys Ala Gly Tyr Pro Arg Trp Arg Ser Glu His Arg
130 135 140

```
Tyr Asp Ser Leu Thr Phe Gly Leu Thr Ser Pro Ser Lys Glu Arg Phe
145                 150                 155                 160

Asp Pro Glu Thr Gly Glu Ser Leu Gly Arg Gly Lys Thr Val Gly Ala
                165                 170                 175

Gly Thr Tyr His Asn Gly Asp Leu Arg Leu Thr Gly Leu Gly Glu Leu
            180                 185                 190

Arg Ile Leu Glu His Arg Arg Ile Pro Met Gly Ala Ile Pro Lys Ser
        195                 200                 205

Val Ile Val Arg Arg Ser Gly Lys Arg Trp Phe Val Ser Ile Ala Met
    210                 215                 220

Glu Met Pro Ser Val Glu Pro Ala Ala Ser Gly Arg Pro Ala Val Gly
225                 230                 235                 240

Leu Asp Met Gly Val Val Thr Trp Gly Thr Ala Phe Thr Ala Asp Thr
                245                 250                 255

Ser Ala Ala Ala Ala Leu Val Ala Asp Leu Arg Arg Met Ala Thr Asp
            260                 265                 270

Pro Ser Asp Cys Arg Arg Leu Glu Glu Leu Glu Arg Glu Ala Ala Gln
        275                 280                 285

Leu Ser Glu Val Leu Ala His Cys Arg Ala Arg Gly Leu Asp Pro Ala
    290                 295                 300

Arg Pro Arg Arg Cys Pro Lys Glu Leu Thr Lys Leu Tyr Arg Arg Ser
305                 310                 315                 320

Leu His Arg Leu Gly Glu Leu Asp Arg Ala Cys Ala Arg Ile Arg Arg
                325                 330                 335

Arg Leu Gln Ala Ala His Asp Ile Ala Glu Pro Val Pro Asp Glu Ala
            340                 345                 350

Gly Ser Ala Val Leu Ile Glu Gly Ser Asn Ala Gly Met Arg His Ala
```

```
        355                 360                 365

Arg Arg Val Ala Arg Thr Gln Arg Arg Val Ala Arg Arg Thr Arg Ala
    370                 375                 380

Gly His Ala His Ser Asn Arg Arg Lys Lys Ala Val Gln Ala Tyr Ala
385                 390                 395                 400

Arg Ala Lys Glu Arg Glu Arg Ser Ala Arg Gly Asp His Arg His Lys
                405                 410                 415

Val Ser Arg Ala Leu Val Arg Gln Phe Glu Glu Ile Ser Val Glu Ala
            420                 425                 430

Leu Asp Ile Lys Gln Leu Thr Val Ala Pro Glu His Asn Pro Asp Pro
        435                 440                 445

Gln Pro Asp Leu Pro Ala His Val Gln Arg Arg Arg Asn Arg Gly Glu
    450                 455                 460

Leu Asp Ala Ala Trp Gly Ala Phe Phe Ala Ala Leu Asp Tyr Lys Ala
465                 470                 475                 480

Ala Asp Ala Gly Gly Arg Val Ala Arg Lys Pro Ala Pro His Thr Thr
                485                 490                 495

Gln Glu Cys Ala Arg Cys Gly Thr Leu Val Pro Lys Pro Ile Ser Leu
            500                 505                 510

Arg Val His Arg Cys Pro Ala Cys Gly Tyr Thr Ala Pro Arg Thr Val
        515                 520                 525

Asn Ser Ala Arg Asn Val Leu Gln Arg Pro Leu Glu Glu Pro Gly Arg
    530                 535                 540

Ala Gly Pro Ser Gly Ala Asn Gly Arg Gly Val Pro His Ala Val Ala
545                 550                 555                 560

<210>  46
<211>  404
<212>  PRT
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<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 46

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Met Asn Cys Arg Tyr Arg Tyr Arg Ile Tyr Pro Thr Pro Gly Gln Arg
1               5                  10                  15


Gln Ser Leu Ala Arg Leu Phe Gly Cys Val Arg Val Val Trp Asn Asp
            20                  25                  30


Ala Leu Phe Leu Cys Arg Gln Ser Glu Lys Leu Pro Lys Asn Ser Glu
        35                  40                  45


Leu Gln Lys Leu Cys Ile Thr Gln Ala Lys Lys Thr Glu Ala Arg Gly
    50                  55                  60


Trp Leu Gly Gln Val Ser Ala Ile Pro Leu Gln Gln Ser Val Ala Asp
65                  70                  75                  80


Leu Gly Val Ala Phe Lys Asn Phe Phe Gln Ser Arg Ser Gly Lys Arg
                85                  90                  95


Lys Gly Lys Lys Val Asn Pro Pro Arg Val Lys Arg Arg Asn Asn Arg
            100                 105                 110


Gln Gly Ala Arg Phe Thr Arg Gly Gly Phe Lys Val Lys Thr Ser Lys
        115                 120                 125


Val Tyr Leu Ala Arg Ile Gly Asp Ile Lys Ile Lys Trp Ser Arg Pro
    130                 135                 140


Leu Pro Ser Glu Pro Ser Ser Val Thr Val Ile Lys Asp Cys Ala Gly
145                 150                 155                 160


Gln Tyr Phe Leu Ser Phe Val Val Glu Val Lys Pro Glu Ile Lys Pro
                165                 170                 175


Pro Lys Asn Pro Ser Ile Gly Ile Asp Leu Gly Leu Lys Thr Phe Ala
            180                 185                 190
```

```
Ser Cys Ser Asn Gly Glu Lys Ile Asp Ser Pro Asp Tyr Ser Arg Leu
        195                 200                 205

Tyr Arg Lys Leu Lys Arg Cys Gln Arg Arg Leu Ala Lys Arg Gln Arg
    210                 215                 220

Gly Ser Lys Arg Arg Glu Arg Met Arg Val Lys Val Ala Lys Leu Asn
225                 230                 235                 240

Ala Gln Ile Arg Asp Lys Arg Lys Asp Phe Leu His Lys Leu Ser Thr
                245                 250                 255

Lys Val Val Asn Glu Asn Gln Val Ile Ala Leu Glu Asp Leu Asn Val
            260                 265                 270

Gly Gly Met Leu Lys Asn Arg Lys Leu Ser Arg Ala Ile Ser Gln Ala
        275                 280                 285

Gly Trp Tyr Glu Phe Arg Ser Leu Cys Glu Gly Lys Ala Glu Lys His
    290                 295                 300

Asn Arg Asp Phe Arg Val Ile Ser Arg Trp Glu Pro Thr Ser Gln Val
305                 310                 315                 320

Cys Ser Glu Cys Gly Tyr Arg Trp Gly Lys Ile Asp Leu Ser Val Arg
                325                 330                 335

Ser Ile Val Cys Ile Asn Cys Gly Val Glu His Asp Arg Asp Asp Asn
            340                 345                 350

Ala Ser Val Asn Ile Glu Gln Ala Gly Leu Lys Val Gly Val Gly His
        355                 360                 365

Thr His Asp Ser Lys Arg Thr Gly Ser Ala Cys Lys Thr Ser Asn Gly
    370                 375                 380

Ala Val Cys Val Glu Pro Ser Thr His Arg Glu Tyr Val Gln Leu Thr
385                 390                 395                 400

Leu Phe Asp Trp
```

<210> 47
<211> 392
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 47

```
Met Lys Ser Arg Trp Thr Phe Arg Cys Tyr Pro Thr Pro Glu Gln Glu
1               5                  10                  15


Gln His Leu Ala Arg Thr Phe Gly Cys Val Arg Phe Val Trp Asn Trp
            20                  25                  30


Ala Leu Arg Ala Arg Thr Asp Ala Phe Arg Ala Gly Glu Arg Ile Gly
        35                  40                  45


Tyr Pro Ala Thr Asp Lys Ala Leu Thr Leu Leu Lys Gln Gln Pro Glu
    50                  55                  60


Thr Val Trp Leu Asn Glu Val Ser Ser Val Cys Leu Gln Gln Ala Leu
65                  70                  75                  80


Arg Asp Leu Gln Val Ala Phe Ser Asn Phe Phe Asp Lys Arg Ala Ala
                85                  90                  95


His Pro Ser Phe Lys Arg Lys Glu Ala Arg Gln Ser Ala Asn Tyr Thr
            100                 105                 110


Glu Arg Gly Phe Ser Phe Asp His Glu Arg Arg Ile Leu Lys Leu Ala
        115                 120                 125


Lys Ile Gly Ala Ile Lys Val Lys Trp Ser Arg Lys Ala Ile Pro His
    130                 135                 140


Pro Ser Ser Ile Arg Leu Ile Arg Thr Ala Ser Gly Lys Tyr Phe Val
145                 150                 155                 160


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

```
                165                 170                 175

Ser Val Gly Val Asp Phe Gly Val Ala Arg Leu Ala Thr Leu Ser Asn
            180                 185                 190

Gly Glu Arg Ile Ser Asn Pro Lys His Gly Ala Lys Trp Gln Arg Arg
        195                 200                 205

Leu Ala Phe Tyr Gln Lys Arg Leu Ala Arg Ala Thr Lys Gly Ser Lys
    210                 215                 220

Arg Arg Met Arg Ile Lys Arg His Val Ala Arg Ile His Glu Lys Ile
225                 230                 235                 240

Gly Asn Ser Arg Ser Asp Thr Leu His Lys Leu Ser Thr Asp Leu Val
                245                 250                 255

Thr Arg Phe Asp Leu Ile Cys Val Glu Asp Leu Asn Leu Arg Gly Met
            260                 265                 270

Val Lys Asn His Ser Leu Ala Arg Ser Leu His Asp Ala Ser Ile Gly
        275                 280                 285

Ser Ala Ile Arg Met Ile Glu Glu Lys Ala Glu Arg Tyr Gly Lys Asn
    290                 295                 300

Val Val Lys Ile Asp Arg Trp Phe Pro Ser Ser Lys Thr Cys Ser Asp
305                 310                 315                 320

Cys Gly His Ile Val Glu Gln Leu Pro Leu Asn Val Arg Glu Trp Thr
                325                 330                 335

Cys Pro Glu Cys Gly Thr Thr His Asp Arg Asp Ala Asn Ala Ala Ala
            340                 345                 350

Asn Ile Leu Ala Val Gly Gln Thr Val Ser Ala His Gly Gly Thr Val
        355                 360                 365

Arg Arg Ser Arg Ala Lys Ala Ser Glu Arg Lys Ser Gln Arg Ser Ala
    370                 375                 380
```

Asn Arg Gln Gly Val Asn Arg Ala
385 390

<210> 48
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 48

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10

<210> 49
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 49

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10

<210> 50
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 50

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10

<210> 51
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 51
gttgcattcc ttcattcgtc tattcgggtt ctgcaac 37

<210> 52
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 52
gttgcattcc ttcattcgtc tatccgggtt ctgcaag 37

<210> 53
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 53
gttgcagaac ccgaatagac gaatgaagga atgcaac 37

<210> 54
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 54
ctatcatatt cagaacaaag ggattaagga atgcaac 37

<210> 55
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 55
ctttcatact cagaacaaag ggattaagga atgcaac 37

<210> 56

<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 56
gtctacaact cattgataga aatcaatgag ttagaca 37

<210> 57
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 57
gttataaagg cggggatcgc gaccgagcga ttgaaag 37

<210> 58
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 58
gttgcattcc ttaattcatt ttctcaatat cggaaac 37

<210> 59
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 59
gttgcagaaa tagaataaag gaattaagga atgcaac 37

<210> 60
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 60
ctttcatact cagaacaaag ggattaagga atgcaac 37

<210> 61
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 61
atttcatact cagaacaaag ggattaagga atgcaac 37

<210> 62
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 62
gtttcagcgc acgaattaac gagatgagag atgcaact 38

<210> 63
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 63
cttgcagaag ctgaatagac gaatcaagga atgcaac 37

<210> 64
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 64
cacttgcagg ccttgaatag aggagttaag gaatgcaac 39

<210> 65

<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 65
gtctccatga ctgaaaagtc gtggccgaat tgaaac 36

<210> 66
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 66
gttgcagcgc ccgaactgac gagacgagag atgcaac 37

<210> 67
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 67
gttgcgcgaa tagaataaag gaattaagga atgcaac 37

<210> 68
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 68
agttgcattc cttaatccct ctgttcagtt tgtgcaat 38

<210> 69
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 69
gttgcattcc tagtttctct aattagcact gtgcaac 37

<210> 70
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 70
gttgcggcgc gcgaataaac gagactagga atgcaac 37

<210> 71
<211> 41
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 71
actagttgca ttccttaatc cctttgttct gaatatgcta g 41

<210> 72
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 72
ctttcatatt cagaacaaag ggattaagga atgcaac 37

<210> 73
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 73
gttgcagtcc ttaaccccta gtttctgaat atgaaagat 39

<210> 74

<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 74
gttgcagccc ccgaactaac gagatgagag atgcaac 37

<210> 75
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 75
cttgcagaac aatcatatat gactaatcag actgcaac 38

<210> 76
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 76
gttgcactca ccggtgctca cgacgtaggg atgcaac 37

<210> 77
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 77
gtccctactc gctagggaaa ctaattgaat ggaaac 36

<210> 78
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 78
gttgcattcg ggtgcaaaac agggagtaga gtgtaac 37

<210> 79
<211> 35
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 79
cttccaaact cgagccagtg gggagagaag tggca 35

<210> 80
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 80
cctgtagacc ggtctcattc tgagaggggt atgcaact 38

<210> 81
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 81
gtctcgagac cctacagatt ttggagaggg gtgggac 37

<210> 82
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 82
gtcccacccc tctccaaaat ctgtagggtc tcgagac 37

<210> 83

<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 83
gtagcaggac tctcctcgag agaaacaggg gtatgct 37

<210> 84
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 84
gtacaatacc tctcctttaa gagagggagg ggtacgctac 40

<210> 85
<211> 31
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 85
ccccctcgtt tccttcaggg gattcctttc c 31

<210> 86
<211> 28
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 86
ggttcccccg ggcgcgggtg gggtggcg 28

<210> 87
<211> 28
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 87
ggctgctccg ggtgcgcgtg gagcgagg 28

<210> 88
<211> 35
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 88
gttttatacc ctttagaatt taaactgtct aaaag 35

<210> 89
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 89
attgcaccgg ccaacgcaaa tctgattgat ggacac 36

<210> 90
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 90
gccgcagcgg ccgacgcggc cctgatcgat ggacac 36

<210> 91
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 91
gtcgaaatgc ccgcgcgggg gcgtcgtacc cgcgac 36

<210> 92

<211> 29
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 92
ggctagcccg tgcgcgcagg gacgagtgg 29

<210> 93
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 93
gcccgtgcgc gcagggacga gtgg 24

<210> 94
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 94
gttgcagcgg ccgacggagc gcgagcgtgg atgccac 37

<210> 95
<211> 29
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 95
ccatcgcccc gcgcgcacgt ggatgagcc 29

<210> 96
<211> 35
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 96
ctttagactt ctccggaagt cgaattaatg gaaac 35

<210> 97
<211> 28
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 97
gggcgccccg cgcgagcggg ggttgaag 28

<210> 98
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 98

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10

<210> 99
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 99

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10

<210> 100
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 100

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
1 5 10

<210> 101
<211> 84
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 101

Met Ala Ser Met Ile Ser Ser Ser Ala Val Thr Thr Val Ser Arg Ala
1 5 10 15

Ser Arg Gly Gln Ser Ala Ala Met Ala Pro Phe Gly Gly Leu Lys Ser
20 25 30

Met Thr Gly Phe Pro Val Arg Lys Val Asn Thr Asp Ile Thr Ser Ile
35 40 45

Thr Ser Asn Gly Gly Arg Val Lys Cys Met Gln Val Trp Pro Pro Ile
50 55 60

Gly Lys Lys Lys Phe Glu Thr Leu Ser Tyr Leu Pro Pro Leu Thr Arg
65 70 75 80

Asp Ser Arg Ala

<210> 102
<211> 57
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 102

Met Ala Ser Met Ile Ser Ser Ser Ala Val Thr Thr Val Ser Arg Ala
1 5 10 15

Ser Arg Gly Gln Ser Ala Ala Met Ala Pro Phe Gly Gly Leu Lys Ser

```
            20                  25                  30

Met Thr Gly Phe Pro Val Arg Lys Val Asn Thr Asp Ile Thr Ser Ile
        35                  40                  45

Thr Ser Asn Gly Gly Arg Val Lys Ser
    50                  55
```

<210> 103
<211> 85
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 103

```
Met Ala Ser Ser Met Leu Ser Ser Ala Thr Met Val Ala Ser Pro Ala
1               5                   10                  15

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

Phe Pro Ala Thr Arg Lys Ala Asn Asn Asp Ile Thr Ser Ile Thr Ser
        35                  40                  45

Asn Gly Gly Arg Val Asn Cys Met Gln Val Trp Pro Pro Ile Glu Lys
    50                  55                  60

Lys Lys Phe Glu Thr Leu Ser Tyr Leu Pro Asp Leu Thr Asp Ser Gly
65                  70                  75                  80

Gly Arg Val Asn Cys
                85
```

<210> 104
<211> 76
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 104

```
Met Ala Gln Val Ser Arg Ile Cys Asn Gly Val Gln Asn Pro Ser Leu
1               5                   10                  15

Ile Ser Asn Leu Ser Lys Ser Ser Gln Arg Lys Ser Pro Leu Ser Val
            20                  25                  30

Ser Leu Lys Thr Gln Gln His Pro Arg Ala Tyr Pro Ile Ser Ser Ser
        35                  40                  45

Trp Gly Leu Lys Lys Ser Gly Met Thr Leu Ile Gly Ser Glu Leu Arg
    50                  55                  60

Pro Leu Lys Val Met Ser Ser Val Ser Thr Ala Cys
65                  70                  75
```

<210> 105
<211> 76
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 105

```
Met Ala Gln Val Ser Arg Ile Cys Asn Gly Val Trp Asn Pro Ser Leu
1               5                   10                  15

Ile Ser Asn Leu Ser Lys Ser Ser Gln Arg Lys Ser Pro Leu Ser Val
            20                  25                  30

Ser Leu Lys Thr Gln Gln His Pro Arg Ala Tyr Pro Ile Ser Ser Ser
        35                  40                  45

Trp Gly Leu Lys Lys Ser Gly Met Thr Leu Ile Gly Ser Glu Leu Arg
    50                  55                  60

Pro Leu Lys Val Met Ser Ser Val Ser Thr Ala Cys
65                  70                  75
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<400> 106

Met Ala Gln Ile Asn Asn Met Ala Gln Gly Ile Gln Thr Leu Asn Pro
1 5 10 15

Asn Ser Asn Phe His Lys Pro Gln Val Pro Lys Ser Ser Ser Phe Leu
20 25 30

Val Phe Gly Ser Lys Lys Leu Lys Asn Ser Ala Asn Ser Met Leu Val
35 40 45

Leu Lys Lys Asp Ser Ile Phe Met Gln Leu Phe Cys Ser Phe Arg Ile
50 55 60

Ser Ala Ser Val Ala Thr Ala Cys
65 70

<210> 107
<211> 69
<212> PRT
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<220>
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<400> 107

Met Ala Ala Leu Val Thr Ser Gln Leu Ala Thr Ser Gly Thr Val Leu
1 5 10 15

Ser Val Thr Asp Arg Phe Arg Arg Pro Gly Phe Gln Gly Leu Arg Pro
20 25 30

Arg Asn Pro Ala Asp Ala Ala Leu Gly Met Arg Thr Val Gly Ala Ser
35 40 45

Ala Ala Pro Lys Gln Ser Arg Lys Pro His Arg Phe Asp Arg Arg Cys
50 55 60

Leu Ser Met Val Val

65

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<211> 77
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<220>
<223> Synthetic sequence

<400> 108

Met Ala Ala Leu Thr Thr Ser Gln Leu Ala Thr Ser Ala Thr Gly Phe
1 5 10 15

Gly Ile Ala Asp Arg Ser Ala Pro Ser Ser Leu Leu Arg His Gly Phe
20 25 30

Gln Gly Leu Lys Pro Arg Ser Pro Ala Gly Gly Asp Ala Thr Ser Leu
35 40 45

Ser Val Thr Thr Ser Ala Arg Ala Thr Pro Lys Gln Gln Arg Ser Val
50 55 60

Gln Arg Gly Ser Arg Arg Phe Pro Ser Val Val Val Cys
65 70 75

<210> 109
<211> 57
<212> PRT
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<400> 109

Met Ala Ser Ser Val Leu Ser Ser Ala Ala Val Ala Thr Arg Ser Asn
1 5 10 15

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

Ala Ser Phe Pro Val Ser Arg Lys Gln Asn Leu Asp Ile Thr Ser Ile
35 40 45

Ala Ser Asn Gly Gly Arg Val Gln Cys
    50   55

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<400> 110

Met Glu Ser Leu Ala Ala Thr Ser Val Phe Ala Pro Ser Arg Val Ala
1   5   10   15

Val Pro Ala Ala Arg Ala Leu Val Arg Ala Gly Thr Val Val Pro Thr
            20   25   30

Arg Arg Thr Ser Ser Thr Ser Gly Thr Ser Gly Val Lys Cys Ser Ala
        35   40   45

Ala Val Thr Pro Gln Ala Ser Pro Val Ile Ser Arg Ser Ala Ala Ala
    50   55   60

Ala
65

<210> 111
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<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 111

Met Gly Ala Ala Ala Thr Ser Met Gln Ser Leu Lys Phe Ser Asn Arg
1   5   10   15

Leu Val Pro Pro Ser Arg Arg Leu Ser Pro Val Pro Asn Asn Val Thr
            20   25   30

Cys Asn Asn Leu Pro Lys Ser Ala Ala Pro Val Arg Thr Val Lys Cys

35 40 45

Cys Ala Ser Ser Trp Asn Ser Thr Ile Asn Gly Ala Ala Ala Thr Thr
50 55 60

Asn Gly Ala Ser Ala Ala Ser Ser
65 70

<210> 112
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<400> 112

Gly Leu Phe Xaa Ala Leu Leu Xaa Leu Leu Xaa Ser Leu Trp Xaa Leu
1 5 10 15

Leu Leu Xaa Ala
20

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<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 113

Gly Leu Phe His Ala Leu Leu His Leu Leu His Ser Leu Trp His Leu
1 5 10 15

Leu Leu His Ala
20

<210> 114
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<212> PRT
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<220>
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<400> 114

Pro Lys Lys Lys Arg Lys Val
1 5

<210> 115
<211> 16
<212> PRT
<213> Artificial sequence

<220>
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<400> 115

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
1 5 10 15

<210> 116
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 116

Pro Ala Ala Lys Arg Val Lys Leu Asp
1 5

<210> 117
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 117

Arg Gln Arg Arg Asn Glu Leu Lys Arg Ser Pro
1 5 10

<210> 118
<211> 38
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 118

Asn Gln Ser Ser Asn Phe Gly Pro Met Lys Gly Gly Asn Phe Gly Gly
1 5 10 15

Arg Ser Ser Gly Pro Tyr Gly Gly Gly Gly Gln Tyr Phe Ala Lys Pro
20 25 30

Arg Asn Gln Gly Gly Tyr
35

<210> 119
<211> 42
<212> PRT
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<220>
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<400> 119

Arg Met Arg Ile Glx Phe Lys Asn Lys Gly Lys Asp Thr Ala Glu Leu

1 5 10 15

Arg Arg Arg Arg Val Glu Val Ser Val Glu Leu Arg Lys Ala Lys Lys
20 25 30

Asp Glu Gln Ile Leu Lys Arg Arg Asn Val
35 40

<210> 120
<211> 8
<212> PRT
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<400> 120

Val Ser Arg Lys Arg Pro Arg Pro
1 5

<210> 121
<211> 8
<212> PRT
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<220>
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<400> 121

Pro Pro Lys Lys Ala Arg Glu Asp
1 5

<210> 122
<211> 8
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<400> 122

Pro Gln Pro Lys Lys Lys Pro Leu
1 5

<210> 123

<211> 12
<212> PRT
<213> Artificial sequence

<220>
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<400> 123

Ser Ala Leu Ile Lys Lys Lys Lys Lys Met Ala Pro
1 5 10

<210> 124
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 124

Asp Arg Leu Arg Arg
1 5

<210> 125
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 125

Pro Lys Gln Lys Lys Arg Lys
1 5

<210> 126
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 126

Arg Lys Leu Lys Lys Lys Ile Lys Lys Leu
1 5 10

<210> 127
<211> 10
<212> PRT
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<220>
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<400> 127

Arg Glu Lys Lys Lys Phe Leu Lys Arg Arg
1 5 10

<210> 128
<211> 20
<212> PRT
<213> Artificial sequence

<220>
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<400> 128

Lys Arg Lys Gly Asp Glu Val Asp Gly Val Asp Glu Val Ala Lys Lys
1 5 10 15

Lys Ser Lys Lys
20

<210> 129
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<220>
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<400> 129

Arg Lys Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys
1 5 10 15

Lys

<210> 130
<211> 11
<212> PRT

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<220>
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<400> 130

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5 10

<210> 131
<211> 12
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<400> 131

Arg Arg Gln Arg Arg Thr Ser Lys Leu Met Lys Arg
1 5 10

<210> 132
<211> 27
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 132

Gly Trp Thr Leu Asn Ser Ala Gly Tyr Leu Leu Gly Lys Ile Asn Leu
1 5 10 15

Lys Ala Leu Ala Ala Leu Ala Lys Lys Ile Leu
20 25

<210> 133
<211> 33
<212> PRT
<213> Artificial sequence

<220>
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<400> 133

Lys Ala Leu Ala Trp Glu Ala Lys Leu Ala Lys Ala Leu Ala Lys Ala

1 5 10 15

Leu Ala Lys His Leu Ala Lys Ala Leu Ala Lys Ala Leu Lys Cys Glu
20 25 30

Ala

<210> 134
<211> 16
<212> PRT
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<220>
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<400> 134

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

<210> 135
<211> 9
<212> PRT
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<220>
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<400> 135

Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5

<210> 136
<211> 8
<212> PRT
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<400> 136

Arg Lys Lys Arg Arg Gln Arg Arg
1 5

<210> 137

<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 137

Tyr Ala Arg Ala Ala Ala Arg Gln Ala Arg Ala
1 5 10

<210> 138
<211> 11
<212> PRT
<213> Artificial sequence

<220>
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<400> 138

Thr His Arg Leu Pro Arg Arg Arg Arg Arg Arg
1 5 10

<210> 139
<211> 11
<212> PRT
<213> Artificial sequence

<220>
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<400> 139

Gly Gly Arg Arg Ala Arg Arg Arg Arg Arg Arg
1 5 10

<210> 140
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 140

Gly Ser Gly Gly Ser
1 5

<210> 141
<211> 6
<212> PRT
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<220>
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<400> 141

Gly Gly Ser Gly Gly Ser
1 5

<210> 142
<211> 4
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<400> 142

Gly Gly Gly Ser
1

<210> 143
<211> 4
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<400> 143

Gly Gly Ser Gly
1

<210> 144
<211> 5
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<400> 144

Gly Gly Ser Gly Gly

1 5

<210> 145
<211> 5
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<220>
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<400> 145

Gly Ser Gly Ser Gly
1 5

<210> 146
<211> 5
<212> PRT
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<220>
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<400> 146

Gly Ser Gly Gly Gly
1 5

<210> 147
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 147

Gly Gly Gly Ser Gly
1 5

<210> 148
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 148

Gly Ser Ser Ser Gly
1 5

<210> 149
<211> 4
<212> PRT
<213> Artificial sequence

<220>
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<400> 149

Ala Ala Ala Ala
1

<210> 150
<211> 4
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<400> 150

Ala Ala Ala Ala
1

<210> 151
<211> 80
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 151
cgattcctcc ctacagtagt taggtatagc cgaaaggtag agactaaatc tgtagttgga 60

gtgggccgct tgcatcggcc 80

<210> 152
<211> 122
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 152
tcgtctcgag ggttaccaaa attggcactt ctcgacttta ggccgatgca agcggcccac 60

tccactacag atttagtctc taccttgcgg ctatacctaa cttactgtag ggaggaatcg 120

tg 122

<210> 153
<211> 91
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 153
cttcactgat aaagtggaga accgcttcac caaaagctgt cccttagggg attagaactt 60

gagtgaaggt gggctgcttg catcagccta a 91

<210> 154
<211> 114
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 154
cagaataata ctgacttact aagatatctt gagggtatac ccgaaaagat tggcgttgtt 60

gcaacgcaat aagatgtaaa tctgaaaagg tttggaatca tataaataat ttta 114

<210> 155
<211> 104
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 155
aagccaagat atggaatgcc attgtaatat tatggtgttg acttagttta gatttaaaca 60

atcttcgatg gctatatgcg gaaggtttgg cgtcgttgta acgc 104

<210> 156
<211> 213
<212> DNA

<213> Artificial sequence

<220>
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<400> 156
cagtgtgcat agctataaca ctacgcaaag actgctaaag agcgatgtgc tctatcgcag 60

tctcaccttt aatggactta cggatctttt ggagcactaa gctccgctgc ggtgcaacac 120

cgccctttc ttgcctctgc ttgccctttc cggttattat agccgggaga gtgcggaaga 180

ttaccgctct agctcgcagc atgttactga gtc 213

<210> 157
<211> 94
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 157
gcaagtcatt cggggacact ttttgttatt taaagtgttt tagataaatc agtgtcatgc 60

tgaataacga cccgacctat aaataacata atcc 94

<210> 158
<211> 252
<212> DNA
<213> Artificial sequence

<220>
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<400> 158
gtccttaagg tactacacat tacatgtgaa cgtggagcta ataatagaaa tattattaga 60

ctacacctta ttaataacgg taggagatct atatggtctt gaatggaata gtaattgtga 120

aattataatt tctgttctta gctacttaag atggctcgtt gcaagccact cgggggctct 180

cttgaagtca aagagcttta gacaaatcag tgtcaaactg aataacgacc cgaccatgac 240

ttcataatcc cg 252

<210> 159
<211> 152
<212> DNA
<213> Artificial sequence

<220>
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<400> 159
ctcgaggcta tttcatactc agaacaaagg gattaaggaa tgcaacccat ttcaaaatct 60

gtggaattat cacaaccatt aacatttcat actcagaaca aagggattaa ggaatgcaac 120

ggacaccttg ctatgtcctt ttgatgtatg tg 152

<210> 160
<211> 61
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 160
ctcgaggcta tttcatactc agaacaaagc tcagaacaaa gggaataagg aatgcaacgg 60

a 61

<210> 161
<211> 101
<212> DNA
<213> Artificial sequence

<220>
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<400> 161
ctcagaaaca aagggattaa ggaatgcaac ccatttcaaa atctgtggaa actcagaaca 60

aagggattaa ggaatgcaac ggacaccttg ctatgtcctt c 101

<210> 162
<211> 86
<212> DNA
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<400> 162
ctcagaacaa agggattaag gaatgcaacc catttcctca gaacaaaggg attaaggaat 60

gcaacggaca ccttgctatg tccttc 86

<210> 163

<211> 76
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<400> 163
ctcagaacaa agggattaag gaatgcaacc catttctcag aacaaaggga ttaaggaatg 60

caacggacac cttgct 76

<210> 164
<211> 82
<212> DNA
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<400> 164
ctcagaacaa agggattaag gaatgcaacc catttcaaaa ctcagaacaa agggattaag 60

gaatgcaacg gacaccttgc ta 82

<210> 165
<211> 72
<212> DNA
<213> Artificial sequence

<220>
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<400> 165
ctcagaacaa agggattaag gaatgcaacc catttcctca gaacaaaggg attaaggaat 60

gcaacggaca cc 72

<210> 166
<211> 59
<212> DNA
<213> Artificial sequence

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<400> 166
ctcagaacaa agggattaag gaatgcaacc cgggattaag gaatgcaacg gacaccttg 59

<210> 167

<211> 50
<212> DNA
<213> Artificial sequence

<220>
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<400> 167
ctcagaacaa agggattaag gaatgcaacc aacggacacc ttgctatgtc 50

<210> 168
<211> 45
<212> DNA
<213> Artificial sequence

<220>
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<400> 168
ctcagaacaa agggattaag gaatgcaacc catttcaaaa tctgt 45

<210> 169
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<212> DNA
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<400> 169
ctcagaacaa agggattaag gaatgcaacc catttcaaaa t 41

<210> 170
<211> 36
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<400> 170
ctcagaacaa agggattaag gaatgcaacc catttc 36

<210> 171
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ctcagaacaa agggattaag gaatgcaacc catttc 36

<210> 172
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<400> 172
ctcagaacaa agggattaag gaatgcaacc catttc 36

<210> 173
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<212> DNA
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<400> 173
ctcagaacaa agggattaag gaatgcaacc catttca 37

<210> 174
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<400> 174
ctcagaacaa agggattaag gaatgcaacc catttcaa 38

<210> 175
<211> 46
<212> DNA
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<400> 175
ctcagaacaa agggattaag gaatgcaacc catttcaaaa tctgtg 46

<210> 176

<211> 46
<212> DNA
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ctcagaacaa agggattaag gaatgcaacc catttcaaaa tctgtg 46

<210> 177
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<212> DNA
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<400> 177
ctcagaacaa agggattaag gaatgcaacc catttcaaaa tctg 44

<210> 178
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<400> 178

Ser Glu Ser Glu Asn Lys Ile Ile Glu Gln Tyr Tyr Ala Phe Leu Tyr
1 5 10 15

Ser Phe Arg Asp Lys Tyr Glu Lys Pro Glu Phe Lys Asn Arg Gly Asp
20 25 30

Ile Lys Arg Lys Leu Gln Asn Lys Trp Glu Asp Phe Leu Lys Glu Gln
35 40 45

Asn Leu Lys Asn Asp Lys Lys Leu Ser Asn Tyr Ile Phe Ser Asn Arg
50 55 60

Asn Phe Arg Arg Ser Tyr Asp Arg Glu Glu Glu Asn Glu Glu Gly Ile
65 70 75 80

Asp Glu Lys Lys Ser Lys Pro Lys Arg Ile Asn Cys Phe Glu Lys Glu

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                85                  90                  95

Lys Asn Leu Lys Asp Gln Tyr Asp Lys Asp Ala Ile Asn Ala Ser Ala
            100                 105                 110

Asn Lys Asp Gly Ala Gln Lys Trp Gly Cys Phe Glu Cys Ile Phe Phe
        115                 120                 125

Pro Met Tyr Lys Ile Glu Ser Gly Asp Pro Asn Lys Arg Ile Ile Ile
    130                 135                 140

Asn Lys Thr Arg Phe Lys Leu Phe Asp Phe Tyr Leu Asn Leu Lys Gly
145                 150                 155                 160

Cys Lys Ser Cys Leu Arg Ser Thr Tyr His Pro Tyr Arg Ser Asn Val
                165                 170                 175

Tyr Ile Glu Ser Asn Tyr Asp Lys Leu Lys Arg Glu Ile Gly Asn Phe
            180                 185                 190

Leu Gln Gln Lys Asn Ile Phe Gln Arg Met Arg Lys Ala Lys Val Ser
        195                 200                 205

Glu Gly Lys Tyr Leu Thr Asn Leu Asp Glu Tyr Arg Leu Ser Cys Val
    210                 215                 220

Ala Met His Phe Lys Asn Arg Trp Leu Phe Phe Asp Ser Ile Gln Lys
225                 230                 235                 240

Val Leu Arg Glu Thr Ile Lys Gln Arg Leu Lys Gln Met Arg Glu Ser
                245                 250                 255

Tyr Asp Glu Gln Ala Lys Thr Lys Arg Ser Lys Gly His Gly Arg Ala
            260                 265                 270

Lys Tyr Glu Asp Gln Val Arg Met Ile Arg Arg Arg Ala Tyr Ser Ala
        275                 280                 285

Gln Ala His Lys Leu Leu Asp Asn Gly Tyr Ile Thr Leu Phe Asp Tyr
    290                 295                 300
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Asp Asp Lys Glu Ile Asn Lys Val Cys Leu Thr Ala Ile Asn Gln Glu
305                 310                 315                 320

Gly Phe Asp Ile Gly Gly Tyr Leu Asn Ser Asp Ile Asp Asn Val Met
                325                 330                 335

Pro Pro Ile Glu Ile Ser Phe His Leu Lys Trp Lys Tyr Asn Glu Pro
            340                 345                 350

Ile Leu Asn Ile Glu Ser Pro Phe Ser Lys Ala Lys Ile Ser Asp Tyr
        355                 360                 365

Leu Arg Lys Ile Arg Glu Asp Leu Asn Leu Glu Arg Gly Lys Glu Gly
    370                 375                 380

Lys Ala Arg Ser Lys Lys Asn Val Arg Arg Lys Val Leu Ala Ser Lys
385                 390                 395                 400

Gly Glu Asp Gly Tyr Lys Lys Ile Phe Thr Asp Phe Phe Ser Lys Trp
                405                 410                 415

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

Ser Gly Asp Ile Gln Trp Ser Lys Lys Lys Arg Ile His Tyr Thr Thr
        435                 440                 445

Leu Val Leu Asn Ile Asn Leu Leu Asp Lys Lys Gly Val Gly Asn Leu
    450                 455                 460

Lys Tyr Tyr Glu Ile Ala Glu Lys Thr Lys Ile Leu Ser Phe Asp Lys
465                 470                 475                 480

Asn Glu Asn Lys Phe Trp Pro Ile Thr Ile Gln Val Leu Leu Asp Gly
                485                 490                 495

Tyr Glu Ile Gly Thr Glu Tyr Asp Glu Ile Lys Gln Leu Asn Glu Lys
            500                 505                 510

Thr Ser Lys Gln Phe Thr Ile Tyr Asp Pro Asn Thr Lys Ile Ile Lys
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        515                 520                 525

Ile Pro Phe Thr Asp Ser Lys Ala Val Pro Leu Gly Met Leu Gly Ile
    530                 535                 540

Asn Ile Ala Thr Leu Lys Thr Val Lys Lys Thr Glu Arg Asp Ile Lys
545                 550                 555                 560

Val Ser Lys Ile Phe Lys Gly Gly Leu Asn Ser Lys Ile Val Ser Lys
                565                 570                 575

Ile Gly Lys Gly Ile Tyr Ala Gly Tyr Phe Pro Thr Val Asp Lys Glu
            580                 585                 590

Ile Leu Glu Glu Val Glu Glu Asp Thr Leu Asp Asn Glu Phe Ser Ser
        595                 600                 605

Lys Ser Gln Arg Asn Ile Phe Leu Lys Ser Ile Ile Lys Asn Tyr Asp
    610                 615                 620

Lys Met Leu Lys Glu Gln Leu Phe Asp Phe Tyr Ser Phe Leu Val Arg
625                 630                 635                 640

Asn Asp Leu Gly Val Arg Phe Leu Thr Asp Arg Glu Leu Gln Asn Ile
                645                 650                 655

Glu Asp Glu Ser Phe Asn Leu Glu Lys Arg Phe Phe Glu Thr Asp Arg
            660                 665                 670

Asp Arg Ile Ala Arg Trp Phe Asp Asn Thr Asn Thr Asp Asp Gly Lys
        675                 680                 685

Glu Lys Phe Lys Lys Leu Ala Asn Glu Ile Val Asp Ser Tyr Lys Pro
    690                 695                 700

Arg Leu Ile Arg Leu Pro Val Val Arg Val Ile Lys Arg Ile Gln Pro
705                 710                 715                 720

Val Lys Gln Arg Glu Met
                725
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<210> 179
<211> 517
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 179

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Lys Tyr Ser Thr Arg Asp Phe Ser Glu Leu Asn Glu Ile Gln Val Thr
1               5                  10                  15


Ala Cys Lys Gln Asp Glu Phe Phe Lys Val Ile Gln Asn Ala Trp Arg
            20                  25                  30


Glu Ile Ile Lys Lys Arg Phe Leu Glu Asn Arg Glu Asn Phe Ile Glu
        35                  40                  45


Lys Lys Ile Phe Lys Asn Lys Lys Gly Arg Gly Lys Arg Gln Glu Ser
    50                  55                  60


Asp Lys Thr Ile Gln Arg Asn Arg Ala Ser Val Met Lys Asn Phe Gln
65                  70                  75                  80


Leu Ile Glu Asn Glu Lys Ile Ile Leu Arg Ala Pro Ser Gly His Val
                85                  90                  95


Ala Cys Val Phe Pro Val Lys Val Gly Leu Asp Ile Gly Gly Phe Lys
            100                 105                 110


Thr Asp Asp Leu Glu Lys Asn Ile Phe Pro Pro Arg Thr Ile Thr Ile
        115                 120                 125


Asn Val Phe Trp Lys Asn Arg Asp Arg Gln Arg Lys Gly Arg Lys Leu
    130                 135                 140


Glu Val Trp Gly Ile Lys Ala Arg Thr Lys Leu Ile Glu Lys Val His
145                 150                 155                 160


Lys Trp Asp Lys Leu Glu Glu Val Lys Lys Lys Arg Leu Lys Ser Leu
                165                 170                 175
```

```
Glu Gln Lys Gln Glu Lys Ser Leu Asp Asn Trp Ser Glu Val Asn Asn
            180                 185                 190

Asp Ser Phe Tyr Lys Val Gln Ile Asp Glu Leu Gln Glu Lys Ile Asp
        195                 200                 205

Lys Ser Leu Lys Gly Arg Thr Met Asn Lys Ile Leu Asp Asn Lys Ala
    210                 215                 220

Lys Glu Ser Lys Glu Ala Glu Gly Leu Tyr Ile Glu Trp Glu Lys Asp
225                 230                 235                 240

Phe Glu Gly Glu Met Leu Arg Arg Ile Glu Ala Ser Thr Gly Gly Glu
                245                 250                 255

Glu Lys Trp Gly Lys Arg Arg Gln Arg Arg His Thr Ser Leu Leu Leu
            260                 265                 270

Asp Ile Lys Asn Asn Ser Arg Gly Ser Lys Glu Ile Ile Asn Phe Tyr
        275                 280                 285

Ser Tyr Ala Lys Gln Gly Lys Lys Glu Lys Lys Ile Glu Phe Phe Pro
    290                 295                 300

Phe Pro Leu Thr Ile Thr Leu Asp Ala Glu Glu Glu Ser Pro Leu Asn
305                 310                 315                 320

Ile Lys Ser Ile Pro Ile Glu Asp Lys Asn Ala Thr Ser Lys Tyr Phe
                325                 330                 335

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

Asp Arg Val Gln Lys Phe Lys Thr Lys Asn Ile Ser Gly Ala Ile Lys
        355                 360                 365

Arg Asn Leu Gly Ser Ser Ile Ser Ser Cys Lys Ile Val Gln Asn Ala
    370                 375                 380

Glu Thr Ser Ala Lys Ser Ile Leu Ser Leu Pro Asn Val Lys Glu Asp
```

385 390 395 400

Asn Asn Met Glu Ile Phe Ile Asn Thr Met Ser Lys Asn Tyr Phe Arg
405 410 415

Ala Met Met Lys Gln Met Glu Ser Phe Ile Phe Glu Met Glu Pro Lys
420 425 430

Thr Leu Ile Asp Pro Tyr Lys Glu Lys Ala Ile Lys Trp Phe Glu Val
435 440 445

Ala Ala Ser Ser Arg Ala Lys Arg Lys Leu Lys Lys Leu Ser Lys Ala
450 455 460

Asp Ile Lys Lys Ser Glu Leu Leu Leu Ser Asn Thr Glu Glu Phe Glu
465 470 475 480

Lys Glu Lys Gln Glu Lys Leu Glu Ala Leu Glu Lys Glu Ile Glu Glu
485 490 495

Phe Tyr Leu Pro Arg Ile Val Arg Leu Gln Leu Thr Lys Thr Ile Leu
500 505 510

Glu Thr Pro Val Met
515

<210> 180
<211> 481
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 180

Lys Lys Leu Gln Leu Leu Gly His Lys Ile Leu Leu Lys Glu Tyr Asp
1 5 10 15

Pro Asn Ala Val Asn Ala Ala Ala Asn Phe Glu Thr Ser Thr Ala Glu
20 25 30

Leu Cys Gly Gln Cys Lys Met Lys Pro Phe Lys Asn Lys Arg Arg Phe

```
        35                  40                  45

Gln Tyr Thr Phe Gly Lys Asn Tyr His Gly Cys Leu Ser Cys Ile Gln
    50                  55                  60

Asn Val Tyr Tyr Ala Lys Lys Arg Ile Val Gln Ile Ala Lys Glu Glu
65                  70                  75                  80

Leu Lys His Gln Leu Thr Asp Ser Ile Ala Ser Ile Pro Tyr Lys Tyr
                85                  90                  95

Thr Ser Leu Phe Ser Asn Thr Asn Ser Ile Asp Glu Leu Tyr Ile Leu
            100                 105                 110

Lys Gln Glu Arg Ala Ala Phe Phe Ser Asn Thr Asn Ser Ile Asp Glu
        115                 120                 125

Leu Tyr Ile Thr Gly Ile Glu Asn Asn Ile Ala Phe Lys Val Ile Ser
    130                 135                 140

Ala Ile Trp Asp Glu Ile Ile Lys Lys Arg Arg Gln Arg Tyr Ala Glu
145                 150                 155                 160

Ser Leu Thr Asp Thr Gly Thr Val Lys Ala Asn Arg Gly His Gly Gly
                165                 170                 175

Thr Ala Tyr Lys Ser Asn Thr Arg Gln Glu Lys Ile Arg Ala Leu Gln
            180                 185                 190

Lys Gln Thr Leu His Met Val Thr Asn Pro Tyr Ile Ser Leu Ala Arg
        195                 200                 205

Tyr Lys Asn Asn Tyr Ile Val Ala Thr Leu Pro Arg Thr Ile Gly Met
    210                 215                 220

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

Tyr Ala Ile Asn Phe Asn Val Phe Trp Ser Asp Asp Arg Gln Leu Ile
                245                 250                 255
```

```
Glu Leu Ser Thr Val Gln Tyr Thr Gly Asp Met Val Arg Lys Ile Glu
            260                 265                 270

Ala Glu Thr Gly Glu Asn Asn Lys Trp Gly Glu Asn Met Lys Arg Thr
        275                 280                 285

Lys Thr Ser Leu Leu Leu Glu Ile Leu Thr Lys Lys Thr Thr Asp Glu
    290                 295                 300

Leu Thr Phe Lys Asp Trp Ala Phe Ser Thr Lys Lys Glu Ile Asp Ser
305                 310                 315                 320

Val Thr Lys Lys Thr Tyr Gln Gly Phe Pro Ile Gly Ile Ile Phe Glu
                325                 330                 335

Gly Asn Glu Ser Ser Val Lys Phe Gly Ser Gln Asn Tyr Phe Pro Leu
            340                 345                 350

Pro Phe Asp Ala Lys Ile Thr Pro Pro Thr Ala Glu Gly Phe Arg Leu
        355                 360                 365

Asp Trp Leu Arg Lys Gly Ser Phe Ser Ser Gln Met Lys Thr Ser Tyr
    370                 375                 380

Gly Leu Ala Ile Tyr Ser Asn Lys Val Thr Asn Ala Ile Pro Ala Tyr
385                 390                 395                 400

Val Ile Lys Asn Met Phe Tyr Lys Ile Ala Arg Ala Glu Asn Gly Lys
                405                 410                 415

Gln Ile Lys Ala Lys Phe Leu Lys Lys Tyr Leu Asp Ile Ala Gly Asn
            420                 425                 430

Asn Tyr Val Pro Phe Ile Ile Met Gln His Tyr Arg Val Leu Asp Thr
        435                 440                 445

Phe Glu Glu Met Pro Ile Ser Gln Pro Lys Val Ile Arg Leu Ser Leu
    450                 455                 460

Thr Lys Thr Gln His Ile Ile Ile Lys Lys Asp Lys Thr Asp Ser Lys
```

465 470 475 480

Met

<210> 181
<211> 534
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 181

Asn Thr Ser Asn Leu Ile Asn Leu Gly Lys Lys Ala Ile Asn Ile Ser
1 5 10 15

Ala Asn Tyr Asp Ala Asn Leu Glu Val Gly Cys Lys Asn Cys Lys Phe
20 25 30

Leu Ser Ser Asn Gly Asn Phe Pro Arg Gln Thr Asn Val Lys Glu Gly
35 40 45

Cys His Ser Cys Glu Lys Ser Thr Tyr Glu Pro Ser Ile Tyr Leu Val
50 55 60

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

Lys Phe Thr Phe Gln Ser Leu Lys Tyr Gln Ser Lys Lys Ser Met Lys
85 90 95

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

Asn Lys Asn Lys Ala Phe Asp Val Ile Gln Lys Ser Tyr Asn His Leu
115 120 125

Ile Leu Gln Ile Lys Lys Glu Ile Asn Arg Met Asn Ser Lys Lys Arg
130 135 140

Lys Lys Asn His Lys Arg Arg Leu Phe Arg Asp Arg Glu Lys Gln Leu

```
145                 150                 155                 160

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

Asn Lys Gly Asn Asn His Val Phe Thr Tyr Val Ala Ile His Ser Val
            180                 185                 190

Gly Arg Asp Ile Gly Val Ile Gly Ser Tyr Asp Glu Lys Leu Asn Phe
        195                 200                 205

Glu Thr Glu Leu Thr Tyr Gln Leu Tyr Phe Asn Asp Asp Lys Arg Leu
    210                 215                 220

Leu Tyr Ala Tyr Lys Pro Lys Gln Asn Lys Ile Ile Lys Ile Lys Glu
225                 230                 235                 240

Lys Leu Trp Asn Leu Arg Lys Glu Lys Glu Pro Leu Asp Leu Glu Tyr
                245                 250                 255

Glu Lys Pro Leu Asn Lys Ser Ile Thr Phe Ser Ile Lys Asn Asp Asn
            260                 265                 270

Leu Phe Lys Val Ser Lys Asp Leu Met Leu Arg Arg Ala Lys Phe Asn
        275                 280                 285

Ile Gln Gly Lys Glu Lys Leu Ser Lys Glu Glu Arg Lys Ile Asn Arg
    290                 295                 300

Asp Leu Ile Lys Ile Lys Gly Leu Val Asn Ser Met Ser Tyr Gly Arg
305                 310                 315                 320

Phe Asp Glu Leu Lys Lys Glu Lys Asn Ile Trp Ser Pro His Ile Tyr
                325                 330                 335

Arg Glu Val Arg Gln Lys Glu Ile Lys Pro Cys Leu Ile Lys Asn Gly
            340                 345                 350

Asp Arg Ile Glu Ile Phe Glu Gln Leu Lys Lys Lys Met Glu Arg Leu
        355                 360                 365
```

```
Arg Arg Phe Arg Glu Lys Arg Gln Lys Lys Ile Ser Lys Asp Leu Ile
    370                 375                 380

Phe Ala Glu Arg Ile Ala Tyr Asn Phe His Thr Lys Ser Ile Lys Asn
385                 390                 395                 400

Thr Ser Asn Lys Ile Asn Ile Asp Gln Glu Ala Lys Arg Gly Lys Ala
                405                 410                 415

Ser Tyr Met Arg Lys Arg Ile Gly Tyr Glu Thr Phe Lys Asn Lys Tyr
            420                 425                 430

Cys Glu Gln Cys Leu Ser Lys Gly Asn Val Tyr Arg Asn Val Gln Lys
        435                 440                 445

Gly Cys Ser Cys Phe Glu Asn Pro Phe Asp Trp Ile Lys Lys Gly Asp
    450                 455                 460

Glu Asn Leu Leu Pro Lys Lys Asn Glu Asp Leu Arg Val Lys Gly Ala
465                 470                 475                 480

Phe Arg Asp Glu Ala Leu Glu Lys Gln Ile Val Lys Ile Ala Phe Asn
                485                 490                 495

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

Glu Lys Asp Leu Lys Leu Lys Phe Lys Val Gly Thr Thr Ile Asn Glu
        515                 520                 525

Gln Glu Ser Leu Lys Leu
    530
```

<210> 182
<211> 537
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 182

```
Thr Ser Asn Pro Ile Lys Leu Gly Lys Lys Ala Ile Asn Ile Ser Ala
1               5                  10                  15

Asn Tyr Asp Ser Asn Leu Gln Ile Gly Cys Lys Asn Cys Lys Phe Leu
            20                  25                  30

Ser Tyr Asn Gly Asn Phe Pro Arg Gln Thr Asn Val Lys Glu Gly Cys
        35                  40                  45

His Ser Cys Glu Lys Ser Thr Tyr Glu Pro Pro Val Tyr Thr Val Arg
    50                  55                  60

Ile Gly Glu Arg Arg Ser Lys Tyr Asp Val Leu Asp Ser Leu Lys Lys
65                  70                  75                  80

Phe Ile Phe Leu Ser Leu Lys Tyr Arg Gln Ser Lys Lys Met Lys Thr
                85                  90                  95

Arg Ser Lys Gly Ile Arg Gly Leu Glu Glu Phe Val Ile Ser Ala Asn
            100                 105                 110

Leu Lys Lys Ala Met Asp Val Ile Gln Lys Ser Tyr Arg His Leu Ile
        115                 120                 125

Leu Asn Ile Lys Asn Glu Ile Val Arg Met Asn Gly Lys Lys Arg Asn
    130                 135                 140

Lys Asn His Lys Arg Leu Leu Phe Arg Asp Arg Glu Lys Gln Leu Asn
145                 150                 155                 160

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

Lys Gly Asp Asn Ser Ile Phe Thr Cys Val Ala Ile His Asn Ile Gly
            180                 185                 190

Arg Asp Ile Gly Ile Ala Gly Asp Tyr Phe Asp Lys Leu Glu Pro Lys
        195                 200                 205

Ile Glu Leu Thr Tyr Gln Leu Tyr Tyr Glu Tyr Asn Pro Lys Lys Glu
```

```
    210                 215                 220

Ser Glu Ile Asn Lys Arg Leu Leu Tyr Ala Tyr Lys Pro Lys Gln Asn
225                 230                 235                 240

Lys Ile Ile Glu Ile Lys Glu Lys Leu Trp Asn Leu Arg Lys Glu Lys
                245                 250                 255

Ser Pro Leu Asp Leu Glu Tyr Glu Lys Pro Leu Thr Lys Ser Ile Thr
            260                 265                 270

Phe Leu Val Lys Arg Asp Gly Val Phe Arg Ile Ser Lys Asp Leu Met
        275                 280                 285

Leu Arg Lys Ala Lys Phe Ile Ile Gln Gly Lys Glu Lys Leu Ser Lys
    290                 295                 300

Glu Glu Arg Lys Ile Asn Arg Asp Leu Ile Lys Ile Lys Ser Asn Ile
305                 310                 315                 320

Ile Ser Leu Thr Tyr Gly Arg Phe Asp Glu Leu Lys Lys Asp Lys Thr
                325                 330                 335

Ile Trp Ser Pro His Ile Phe Arg Asp Val Lys Gln Gly Lys Ile Thr
            340                 345                 350

Pro Cys Ile Glu Arg Lys Gly Asp Arg Met Asp Ile Phe Gln Gln Leu
        355                 360                 365

Arg Lys Lys Ser Glu Arg Leu Arg Glu Asn Arg Lys Lys Arg Gln Lys
    370                 375                 380

Lys Ile Ser Lys Asp Leu Ile Phe Ala Glu Arg Ile Ala Tyr Asn Phe
385                 390                 395                 400

His Thr Lys Ser Ile Lys Asn Thr Ser Asn Leu Ile Asn Ile Lys His
                405                 410                 415

Glu Ala Lys Arg Gly Lys Ala Ser Tyr Met Arg Lys Arg Ile Gly Asn
            420                 425                 430
```

```
Glu Thr Phe Arg Ile Lys Tyr Cys Glu Gln Cys Phe Pro Lys Asn Asn
        435                 440                 445

Val Tyr Lys Asn Val Gln Lys Gly Cys Ser Cys Phe Glu Asp Pro Phe
    450                 455                 460

Glu Tyr Ile Lys Lys Gly Asn Glu Asp Leu Ile Pro Asn Lys Asn Gln
465                 470                 475                 480

Asp Leu Lys Ala Lys Gly Ala Phe Arg Asp Asp Ala Leu Glu Lys Gln
                485                 490                 495

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

Glu Asn Leu Lys Lys Thr Thr Glu Lys Asp Ile Arg Leu Lys Phe Lys
        515                 520                 525

Val Gly Thr Ile Ile Ser Glu Glu Met
    530                 535
```

<210> 183
<211> 541
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 183

```
Asn Asn Ser Ile Asn Leu Ser Lys Lys Ala Ile Asn Ile Ser Ala Asn
1               5                   10                  15

Tyr Asp Ala Asn Leu Gln Val Arg Cys Lys Asn Cys Lys Phe Leu Ser
            20                  25                  30

Ser Asn Gly Asn Phe Pro Arg Gln Thr Asp Val Lys Glu Gly Cys His
        35                  40                  45

Ser Cys Glu Lys Ser Thr Tyr Glu Pro Pro Val Tyr Asp Val Lys Ile
    50                  55                  60
```

```
Gly Glu Ile Lys Ala Lys Tyr Glu Val Leu Asp Ser Leu Lys Lys Phe
65                  70                  75                  80

Thr Phe Gln Ser Leu Lys Tyr Gln Leu Ser Lys Ser Met Lys Phe Arg
                85                  90                  95

Ser Lys Lys Ile Lys Glu Leu Lys Glu Phe Val Ile Phe Ala Lys Glu
            100                 105                 110

Ser Lys Ala Leu Asn Val Ile Asn Arg Ser Tyr Lys His Leu Ile Leu
        115                 120                 125

Asn Ile Lys Asn Asp Ile Asn Arg Met Asn Ser Lys Lys Arg Ile Lys
    130                 135                 140

Asn His Lys Gly Arg Leu Phe Leu Asp Arg Gln Lys Gln Leu Ser Lys
145                 150                 155                 160

Leu Lys Leu Ile Glu Gly Ser Ser Phe Phe Val Pro Ala Lys Asn Val
                165                 170                 175

Gly Asn Lys Ser Val Phe Thr Cys Val Ala Ile His Ser Ile Gly Arg
            180                 185                 190

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

Glu Ile Thr Tyr Gln Ile Phe Phe Ser Gly Glu Arg Arg Leu Leu Tyr
    210                 215                 220

Ala Tyr Lys Pro Lys Gln Leu Lys Ile Leu Ser Ile Lys Glu Asn Leu
225                 230                 235                 240

Trp Ser Leu Lys Asn Glu Lys Lys Pro Leu Asp Leu Leu Tyr Glu Lys
                245                 250                 255

Pro Leu Gly Lys Asn Leu Asn Phe Asn Val Lys Gly Gly Asp Leu Phe
            260                 265                 270

Arg Val Ser Lys Asp Leu Met Ile Arg Asn Ala Lys Phe Asn Val His
```

```
        275                 280                 285

Gly Arg Gln Arg Leu Ser Asp Glu Glu Arg Leu Ile Asn Arg Asn Phe
    290                 295                 300

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

Glu Leu Lys Lys Asp Arg Lys Leu Trp Ser Pro His Ile Phe Lys Asp
                325                 330                 335

Val Arg Gln Asn Lys Ile Lys Pro Cys Leu Val Met Gln Gly Gln Arg
            340                 345                 350

Ile Asp Ile Phe Glu Gln Leu Lys Arg Lys Leu Glu Leu Leu Lys Lys
        355                 360                 365

Ile Arg Lys Ser Arg Gln Lys Lys Leu Ser Lys Asp Leu Ile Phe Gly
    370                 375                 380

Glu Arg Ile Ala Tyr Asn Phe His Thr Lys Ser Ile Lys Asn Thr Ser
385                 390                 395                 400

Asn Lys Ile Asn Ile Asp Ser Asp Ala Lys Arg Gly Arg Ala Ser Tyr
                405                 410                 415

Met Arg Lys Arg Ile Gly Asn Glu Thr Phe Lys Leu Lys Tyr Cys Asp
            420                 425                 430

Val Cys Phe Pro Lys Ala Asn Val Tyr Arg Arg Val Gln Asn Gly Cys
        435                 440                 445

Ser Cys Ser Glu Asn Pro Tyr Asn Tyr Ile Lys Lys Gly Asp Lys Asp
    450                 455                 460

Leu Leu Pro Lys Lys Asp Glu Gly Leu Ala Ile Lys Gly Ala Phe Arg
465                 470                 475                 480

Asp Glu Lys Leu Asn Lys Gln Ile Ile Lys Val Ala Phe Asn Ile Ala
                485                 490                 495
```

Lys Gly Tyr Glu Asp Phe Tyr Asp Asp Leu Lys Lys Arg Thr Glu Lys
500 505 510

Asp Val Asp Leu Lys Phe Lys Ile Gly Thr Thr Val Leu Asp Gln Lys
515 520 525

Pro Met Glu Ile Phe Asp Gly Ile Val Ile Thr Trp Leu
530 535 540

<210> 184
<211> 542
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 184

Leu Leu Thr Thr Val Val Glu Thr Asn Asn Leu Ala Lys Lys Ala Ile
1 5 10 15

Asn Val Ala Ala Asn Phe Asp Ala Asn Ile Asp Arg Gln Tyr Tyr Arg
20 25 30

Cys Thr Pro Asn Leu Cys Arg Phe Ile Ala Gln Ser Pro Arg Glu Thr
35 40 45

Lys Glu Lys Asp Ala Gly Cys Ser Ser Cys Thr Gln Ser Thr Tyr Asp
50 55 60

Pro Lys Val Tyr Val Ile Lys Ile Gly Lys Leu Leu Ala Lys Tyr Glu
65 70 75 80

Ile Leu Lys Ser Leu Lys Arg Phe Leu Phe Met Asn Arg Tyr Phe Lys
85 90 95

Gln Lys Lys Thr Glu Arg Ala Gln Gln Lys Gln Lys Ile Gly Thr Glu
100 105 110

Leu Asn Glu Met Ser Ile Phe Ala Lys Ala Thr Asn Ala Met Glu Val
115 120 125

```
Ile Lys Arg Ala Thr Lys His Cys Thr Tyr Asp Ile Ile Pro Glu Thr
    130                 135                 140

Lys Ser Leu Gln Met Leu Lys Arg Arg Arg His Arg Val Lys Val Arg
145                 150                 155                 160

Ser Leu Leu Lys Ile Leu Lys Glu Arg Arg Met Lys Ile Lys Lys Ile
                165                 170                 175

Pro Asn Thr Phe Ile Glu Ile Pro Lys Gln Ala Lys Lys Asn Lys Ser
            180                 185                 190

Asp Tyr Tyr Val Ala Ala Ala Leu Lys Ser Cys Gly Ile Asp Val Gly
        195                 200                 205

Leu Cys Gly Ala Tyr Glu Lys Asn Ala Glu Val Glu Ala Glu Tyr Thr
    210                 215                 220

Tyr Gln Leu Tyr Tyr Glu Tyr Lys Gly Asn Ser Ser Thr Lys Arg Ile
225                 230                 235                 240

Leu Tyr Cys Tyr Asn Asn Pro Gln Lys Asn Ile Arg Glu Phe Trp Glu
                245                 250                 255

Ala Phe Tyr Ile Gln Gly Ser Lys Ser His Val Asn Thr Pro Gly Thr
            260                 265                 270

Ile Arg Leu Lys Met Glu Lys Phe Leu Ser Pro Ile Thr Ile Glu Ser
        275                 280                 285

Glu Ala Leu Asp Phe Arg Val Trp Asn Ser Asp Leu Lys Ile Arg Asn
    290                 295                 300

Gly Gln Tyr Gly Phe Ile Lys Lys Arg Ser Leu Gly Lys Glu Ala Arg
305                 310                 315                 320

Glu Ile Lys Lys Gly Met Gly Asp Ile Lys Arg Lys Ile Gly Asn Leu
                325                 330                 335

Thr Tyr Gly Lys Ser Pro Ser Glu Leu Lys Ser Ile His Val Tyr Arg
```

```
            340                 345                 350

Thr Glu Arg Glu Asn Pro Lys Lys Pro Arg Ala Ala Arg Lys Lys Glu
        355                 360                 365

Asp Asn Phe Met Glu Ile Phe Glu Met Gln Arg Lys Lys Asp Tyr Glu
    370                 375                 380

Val Asn Lys Lys Arg Arg Lys Glu Ala Thr Asp Ala Ala Lys Ile Met
385                 390                 395                 400

Asp Phe Ala Glu Glu Pro Ile Arg His Tyr His Thr Asn Asn Leu Lys
                405                 410                 415

Ala Val Arg Arg Ile Asp Met Asn Glu Gln Val Glu Arg Lys Lys Thr
            420                 425                 430

Ser Val Phe Leu Lys Arg Ile Met Gln Asn Gly Tyr Arg Gly Asn Tyr
        435                 440                 445

Cys Arg Lys Cys Ile Lys Ala Pro Glu Gly Ser Asn Arg Asp Glu Asn
    450                 455                 460

Val Leu Glu Lys Asn Glu Gly Cys Leu Asp Cys Ile Gly Ser Glu Phe
465                 470                 475                 480

Ile Trp Lys Lys Ser Ser Lys Glu Lys Lys Gly Leu Trp His Thr Asn
                485                 490                 495

Arg Leu Leu Arg Arg Ile Arg Leu Gln Cys Phe Thr Thr Ala Lys Ala
            500                 505                 510

Tyr Glu Asn Phe Tyr Asn Asp Leu Phe Glu Lys Lys Glu Ser Ser Leu
        515                 520                 525

Asp Ile Ile Lys Leu Lys Val Ser Ile Thr Thr Lys Ser Met
    530                 535                 540

<210>  185
<211>  564
<212>  PRT
```

<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 185

```
Ala Ser Thr Met Asn Leu Ala Lys Gln Ala Ile Asn Phe Ala Ala Asn
1               5                  10                  15


Tyr Asp Ser Asn Leu Glu Ile Gly Cys Lys Gly Cys Lys Phe Met Ser
            20                  25                  30


Thr Trp Ser Lys Lys Ser Asn Pro Lys Phe Tyr Pro Arg Gln Asn Asn
        35                  40                  45


Gln Ala Asn Lys Cys His Ser Cys Thr Tyr Ser Thr Gly Glu Pro Glu
    50                  55                  60


Val Pro Ile Ile Glu Ile Gly Glu Arg Ala Ala Lys Tyr Lys Ile Phe
65                  70                  75                  80


Thr Ala Leu Lys Lys Phe Val Phe Met Ser Val Ala Tyr Lys Glu Arg
                85                  90                  95


Arg Arg Gln Arg Phe Lys Ser Lys Lys Pro Lys Glu Leu Lys Glu Leu
            100                 105                 110


Ala Ile Cys Ser Asn Arg Glu Lys Ala Met Glu Val Ile Gln Lys Ser
        115                 120                 125


Val Val His Cys Tyr Gly Asp Val Lys Gln Glu Ile Pro Arg Ile Arg
    130                 135                 140


Lys Ile Lys Val Leu Lys Asn His Lys Gly Arg Leu Phe Tyr Lys Gln
145                 150                 155                 160


Lys Arg Ser Lys Ile Lys Ile Ala Lys Leu Glu Lys Gly Ser Phe Phe
                165                 170                 175


Lys Thr Phe Ile Pro Lys Val His Asn Asn Gly Cys His Ser Cys His
            180                 185                 190
```

```
Glu Ala Ser Leu Asn Lys Pro Ile Leu Val Thr Thr Ala Leu Asn Thr
        195                 200                 205

Ile Gly Ala Asp Ile Gly Leu Ile Asn Asp Tyr Ser Thr Ile Ala Pro
    210                 215                 220

Thr Glu Thr Asp Ile Ser Trp Gln Val Tyr Tyr Glu Phe Ile Pro Asn
225                 230                 235                 240

Gly Asp Ser Glu Ala Val Lys Lys Arg Leu Leu Tyr Phe Tyr Lys Pro
                245                 250                 255

Lys Gly Ala Leu Ile Lys Ser Ile Arg Asp Lys Tyr Phe Lys Lys Gly
            260                 265                 270

His Glu Asn Ala Val Asn Thr Gly Phe Phe Lys Tyr Gln Gly Lys Ile
        275                 280                 285

Val Lys Gly Pro Ile Lys Phe Val Asn Asn Glu Leu Asp Phe Ala Arg
    290                 295                 300

Lys Pro Asp Leu Lys Ser Met Lys Ile Lys Arg Ala Gly Phe Ala Ile
305                 310                 315                 320

Pro Ser Ala Lys Arg Leu Ser Lys Glu Asp Arg Glu Ile Asn Arg Glu
                325                 330                 335

Ser Ile Lys Ile Lys Asn Lys Ile Tyr Ser Leu Ser Tyr Gly Arg Lys
            340                 345                 350

Lys Thr Leu Ser Asp Lys Asp Ile Ile Lys His Leu Tyr Arg Pro Val
        355                 360                 365

Arg Gln Lys Gly Val Lys Pro Leu Glu Tyr Arg Lys Ala Pro Asp Gly
    370                 375                 380

Phe Leu Glu Phe Phe Tyr Ser Leu Lys Arg Lys Glu Arg Arg Leu Arg
385                 390                 395                 400

Lys Gln Lys Glu Lys Arg Gln Lys Asp Met Ser Glu Ile Ile Asp Ala
```

405 410 415

Ala Asp Glu Phe Ala Trp His Arg His Thr Gly Ser Ile Lys Lys Thr
420 425 430

Thr Asn His Ile Asn Phe Lys Ser Glu Val Lys Arg Gly Lys Val Pro
435 440 445

Ile Met Lys Lys Arg Ile Ala Asn Asp Ser Phe Asn Thr Arg His Cys
450 455 460

Gly Lys Cys Val Lys Gln Gly Asn Ala Ile Asn Lys Tyr Tyr Ile Glu
465 470 475 480

Lys Gln Lys Asn Cys Phe Asp Cys Asn Ser Ile Glu Phe Lys Trp Glu
485 490 495

Lys Ala Ala Leu Glu Lys Lys Gly Ala Phe Lys Leu Asn Lys Arg Leu
500 505 510

Gln Tyr Ile Val Lys Ala Cys Phe Asn Val Ala Lys Ala Tyr Glu Ser
515 520 525

Phe Tyr Glu Asp Phe Arg Lys Gly Glu Glu Glu Ser Leu Asp Leu Lys
530 535 540

Phe Lys Ile Gly Thr Thr Thr Thr Leu Lys Gln Tyr Pro Gln Asn Lys
545 550 555 560

Ala Arg Ala Met

<210> 186
<211> 610
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 186

His Ser His Asn Leu Met Leu Thr Lys Leu Gly Lys Gln Ala Ile Asn

```
1               5                   10                  15

Phe Ala Ala Asn Tyr Asp Ala Asn Leu Glu Ile Gly Cys Lys Asn Cys
            20                  25                  30

Lys Phe Leu Ser Tyr Ser Pro Lys Gln Ala Asn Pro Lys Lys Tyr Pro
        35                  40                  45

Arg Gln Thr Asp Val His Glu Asp Gly Asn Ile Ala Cys His Ser Cys
    50                  55                  60

Met Gln Ser Thr Lys Glu Pro Pro Val Tyr Ile Val Pro Ile Gly Glu
65                  70                  75                  80

Arg Lys Ser Lys Tyr Glu Ile Leu Thr Ser Leu Asn Lys Phe Thr Phe
                85                  90                  95

Leu Ala Leu Lys Tyr Lys Glu Lys Lys Arg Gln Ala Phe Arg Ala Lys
            100                 105                 110

Lys Pro Lys Glu Leu Gln Glu Leu Ala Ile Ala Phe Asn Lys Glu Lys
        115                 120                 125

Ala Ile Lys Val Ile Asp Lys Ser Ile Gln His Leu Ile Leu Asn Ile
    130                 135                 140

Lys Pro Glu Ile Ala Arg Ile Gln Arg Gln Lys Arg Leu Lys Asn Arg
145                 150                 155                 160

Lys Gly Lys Leu Leu Tyr Leu His Lys Arg Tyr Ala Ile Lys Met Gly
                165                 170                 175

Leu Ile Lys Asn Gly Lys Tyr Phe Lys Val Gly Ser Pro Lys Lys Asp
            180                 185                 190

Gly Lys Lys Leu Leu Val Leu Cys Ala Leu Asn Thr Ile Gly Arg Asp
        195                 200                 205

Ile Gly Ile Ile Gly Asn Ile Glu Glu Asn Asn Arg Ser Glu Thr Glu
    210                 215                 220
```

```
Ile Thr Tyr Gln Leu Tyr Phe Asp Cys Leu Asp Ala Asn Pro Asn Glu
225                 230                 235                 240

Leu Arg Ile Lys Glu Ile Glu Tyr Asn Arg Leu Lys Ser Tyr Glu Arg
                245                 250                 255

Lys Ile Lys Arg Leu Val Tyr Ala Tyr Lys Pro Lys Gln Thr Lys Ile
            260                 265                 270

Leu Glu Ile Arg Ser Lys Phe Phe Ser Lys Gly His Glu Asn Lys Val
        275                 280                 285

Asn Thr Gly Ser Phe Asn Phe Glu Asn Pro Leu Asn Lys Ser Ile Ser
    290                 295                 300

Ile Lys Val Lys Asn Ser Ala Phe Asp Phe Lys Ile Gly Ala Pro Phe
305                 310                 315                 320

Ile Met Leu Arg Asn Gly Lys Phe His Ile Pro Thr Lys Lys Arg Leu
                325                 330                 335

Ser Lys Glu Glu Arg Glu Ile Asn Arg Thr Leu Ser Lys Ile Lys Gly
            340                 345                 350

Arg Val Phe Arg Leu Thr Tyr Gly Arg Asn Ile Ser Glu Gln Gly Ser
        355                 360                 365

Lys Ser Leu His Ile Tyr Arg Lys Glu Arg Gln His Pro Lys Leu Ser
    370                 375                 380

Leu Glu Ile Arg Lys Gln Pro Asp Ser Phe Ile Asp Glu Phe Glu Lys
385                 390                 395                 400

Leu Arg Leu Lys Gln Asn Phe Ile Ser Lys Leu Lys Lys Gln Arg Gln
                405                 410                 415

Lys Lys Leu Ala Asp Leu Leu Gln Phe Ala Asp Arg Ile Ala Tyr Asn
            420                 425                 430

Tyr His Thr Ser Ser Leu Glu Lys Thr Ser Asn Phe Ile Asn Tyr Lys
```

```
        435                 440                 445

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

Asn Glu Gly Phe Glu Lys Leu Tyr Cys Glu Thr Cys Ile Lys Ser Asn
465                 470                 475                 480

Asp Lys Glu Asn Ala Tyr Ala Val Glu Lys Glu Glu Leu Cys Phe Val
                485                 490                 495

Cys Lys Ala Lys Pro Phe Thr Trp Lys Lys Thr Asn Lys Asp Lys Leu
            500                 505                 510

Gly Ile Phe Lys Tyr Pro Ser Arg Ile Lys Asp Phe Ile Arg Ala Ala
        515                 520                 525

Phe Thr Val Ala Lys Ser Tyr Asn Asp Phe Tyr Glu Asn Leu Lys Lys
    530                 535                 540

Lys Asp Leu Lys Asn Glu Ile Phe Leu Lys Phe Lys Ile Gly Leu Ile
545                 550                 555                 560

Leu Ser His Glu Lys Lys Asn His Ile Ser Ile Ala Lys Ser Val Ala
                565                 570                 575

Glu Asp Glu Arg Ile Ser Gly Lys Ser Ile Lys Asn Ile Leu Asn Lys
            580                 585                 590

Ser Ile Lys Leu Glu Lys Asn Cys Tyr Ser Cys Phe Phe His Lys Glu
        595                 600                 605

Asp Met
    610
```

<210> 187
<211> 552
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 187

```
Ser Leu Glu Arg Val Ile Asp Lys Arg Asn Leu Ala Lys Lys Ala Ile
1               5                  10                  15

Asn Ile Ala Ala Asn Phe Asp Ala Asn Ile Asn Lys Gly Phe Tyr Arg
            20                  25                  30

Cys Glu Thr Asn Gln Cys Met Phe Ile Ala Gln Lys Pro Arg Lys Thr
        35                  40                  45

Asn Asn Thr Gly Cys Ser Ser Cys Leu Gln Ser Thr Tyr Asp Pro Val
    50                  55                  60

Ile Tyr Val Val Lys Val Gly Glu Met Leu Ala Lys Tyr Glu Ile Leu
65                  70                  75                  80

Lys Ser Leu Lys Arg Phe Val Phe Met Asn Arg Ser Phe Lys Gln Lys
                85                  90                  95

Lys Thr Glu Lys Ala Lys Gln Lys Glu Arg Ile Gly Gly Glu Leu Asn
            100                 105                 110

Glu Met Ser Ile Phe Ala Asn Ala Ala Leu Ala Met Gly Val Ile Lys
        115                 120                 125

Arg Ala Ile Arg His Cys His Val Asp Ile Arg Pro Glu Ile Asn Arg
    130                 135                 140

Leu Ser Glu Leu Lys Lys Thr Lys His Arg Val Ala Ala Lys Ser Leu
145                 150                 155                 160

Val Lys Ile Val Lys Gln Arg Lys Thr Lys Trp Lys Gly Ile Pro Asn
                165                 170                 175

Ser Phe Ile Gln Ile Pro Gln Lys Ala Arg Asn Lys Asp Ala Asp Phe
            180                 185                 190

Tyr Val Ala Ser Ala Leu Lys Ser Gly Gly Ile Asp Ile Gly Leu Cys
        195                 200                 205
```

```
Gly Thr Tyr Asp Lys Lys Pro His Ala Asp Pro Arg Trp Thr Tyr Gln
    210                 215                 220

Leu Tyr Phe Asp Thr Glu Asp Glu Ser Glu Lys Arg Leu Leu Tyr Cys
225                 230                 235                 240

Tyr Asn Asp Pro Gln Ala Lys Ile Arg Asp Phe Trp Lys Thr Phe Tyr
                245                 250                 255

Glu Arg Gly Asn Pro Ser Met Val Asn Ser Pro Gly Thr Ile Glu Phe
            260                 265                 270

Arg Met Glu Gly Phe Phe Glu Lys Met Thr Pro Ile Ser Ile Glu Ser
        275                 280                 285

Lys Asp Phe Asp Phe Arg Val Trp Asn Lys Asp Leu Leu Ile Arg Arg
    290                 295                 300

Gly Leu Tyr Glu Ile Lys Lys Arg Lys Asn Leu Asn Arg Lys Ala Arg
305                 310                 315                 320

Glu Ile Lys Lys Ala Met Gly Ser Val Lys Arg Val Leu Ala Asn Met
                325                 330                 335

Thr Tyr Gly Lys Ser Pro Thr Asp Lys Lys Ser Ile Pro Val Tyr Arg
            340                 345                 350

Val Glu Arg Glu Lys Pro Lys Lys Pro Arg Ala Val Arg Lys Glu Glu
        355                 360                 365

Asn Glu Leu Ala Asp Lys Leu Glu Asn Tyr Arg Arg Glu Asp Phe Leu
    370                 375                 380

Ile Arg Asn Arg Arg Lys Arg Glu Ala Thr Glu Ile Ala Lys Ile Ile
385                 390                 395                 400

Asp Ala Ala Glu Pro Pro Ile Arg His Tyr His Thr Asn His Leu Arg
                405                 410                 415

Ala Val Lys Arg Ile Asp Leu Ser Lys Pro Val Ala Arg Lys Asn Thr
```

420 425 430

Ser Val Phe Leu Lys Arg Ile Met Gln Asn Gly Tyr Arg Gly Asn Tyr
435 440 445

Cys Lys Lys Cys Ile Lys Gly Asn Ile Asp Pro Asn Lys Asp Glu Cys
450 455 460

Arg Leu Glu Asp Ile Lys Lys Cys Ile Cys Cys Glu Gly Thr Gln Asn
465 470 475 480

Ile Trp Ala Lys Lys Glu Lys Leu Tyr Thr Gly Arg Ile Asn Val Leu
485 490 495

Asn Lys Arg Ile Lys Gln Met Lys Leu Glu Cys Phe Asn Val Ala Lys
500 505 510

Ala Tyr Glu Asn Phe Tyr Asp Asn Leu Ala Ala Leu Lys Glu Gly Asp
515 520 525

Leu Lys Val Leu Lys Leu Lys Val Ser Ile Pro Ala Leu Asn Pro Glu
530 535 540

Ala Ser Asp Pro Glu Glu Asp Met
545 550

<210> 188
<211> 534
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 188

Asn Ala Ser Ile Asn Leu Gly Lys Arg Ala Ile Asn Leu Ser Ala Asn
1 5 10 15

Tyr Asp Ser Asn Leu Val Ile Gly Cys Lys Asn Cys Lys Phe Leu Ser
20 25 30

Phe Asn Gly Asn Phe Pro Arg Gln Thr Asn Val Arg Glu Gly Cys His

```
        35                  40                  45

Ser Cys Asp Lys Ser Thr Tyr Ala Pro Glu Val Tyr Ile Val Lys Ile
    50                  55                  60

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

Thr Phe Gln Ser Leu Lys Tyr Gln Ile Lys Lys Ser Met Arg Glu Arg
                85                  90                  95

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

Asp Lys Ala Phe Asn Val Ile Gln Lys Ser Tyr Glu His Leu Ile Leu
        115                 120                 125

Asn Ile Lys Gln Glu Ile Asn Arg Met Asn Gly Lys Lys Arg Ile Lys
    130                 135                 140

Asn His Lys Lys Arg Leu Phe Lys Asp Arg Glu Lys Gln Leu Asn Lys
145                 150                 155                 160

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

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

Asp Ile Gly Val Ala Gly Ser Tyr Glu Ser His Ile Glu Pro Ile Ser
        195                 200                 205

Asp Leu Thr Tyr Gln Leu Phe Ile Asn Asn Glu Lys Arg Leu Leu Tyr
    210                 215                 220

Ala Tyr Lys Pro Lys Gln Asn Lys Ile Ile Glu Leu Lys Glu Asn Leu
225                 230                 235                 240

Trp Asn Leu Lys Lys Glu Lys Lys Pro Leu Asp Leu Glu Phe Thr Lys
                245                 250                 255
```

```
Pro Leu Glu Lys Ser Ile Thr Phe Ser Val Lys Asn Asp Lys Leu Phe
            260                 265                 270

Lys Val Ser Lys Asp Leu Met Leu Arg Gln Ala Lys Phe Asn Ile Gln
        275                 280                 285

Gly Lys Glu Lys Leu Ser Lys Glu Glu Arg Gln Ile Asn Arg Asp Phe
    290                 295                 300

Ser Lys Ile Lys Ser Asn Val Ile Ser Leu Ser Tyr Gly Arg Phe Glu
305                 310                 315                 320

Glu Leu Lys Lys Glu Lys Asn Ile Trp Ser Pro His Ile Tyr Arg Glu
                325                 330                 335

Val Lys Gln Lys Glu Ile Lys Pro Cys Ile Val Arg Lys Gly Asp Arg
            340                 345                 350

Ile Glu Leu Phe Glu Gln Leu Lys Arg Lys Met Asp Lys Leu Lys Lys
        355                 360                 365

Phe Arg Lys Glu Arg Gln Lys Lys Ile Ser Lys Asp Leu Asn Phe Ala
    370                 375                 380

Glu Arg Ile Ala Tyr Asn Phe His Thr Lys Ser Ile Lys Asn Thr Ser
385                 390                 395                 400

Asn Lys Ile Asn Ile Asp Gln Glu Ala Lys Arg Gly Lys Ala Ser Tyr
                405                 410                 415

Met Arg Lys Arg Ile Gly Asn Glu Ser Phe Arg Lys Lys Tyr Cys Glu
            420                 425                 430

Gln Cys Phe Ser Val Gly Asn Val Tyr His Asn Val Gln Asn Gly Cys
        435                 440                 445

Ser Cys Phe Asp Asn Pro Ile Glu Leu Ile Lys Lys Gly Asp Glu Gly
    450                 455                 460

Leu Ile Pro Lys Gly Lys Glu Asp Arg Lys Tyr Lys Gly Ala Leu Arg
```

465 470 475 480

Asp Asp Asn Leu Gln Met Gln Ile Ile Arg Val Ala Phe Asn Ile Ala
485 490 495

Lys Gly Tyr Glu Asp Phe Tyr Asn Asn Leu Lys Glu Lys Thr Glu Lys
500 505 510

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

Ser Asn Asn Lys Glu Met
530

<210> 189
<211> 577
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 189

Ser Asn Leu Ile Lys Leu Gly Lys Gln Ala Ile Asn Phe Ala Ala Asn
1 5 10 15

Tyr Asp Ala Asn Leu Glu Val Gly Cys Lys Asn Cys Lys Phe Leu Ser
20 25 30

Ser Thr Asn Lys Tyr Pro Arg Gln Thr Asn Val His Leu Asp Asn Lys
35 40 45

Met Ala Cys Arg Ser Cys Asn Gln Ser Thr Met Glu Pro Ala Ile Tyr
50 55 60

Ile Val Arg Ile Gly Glu Lys Lys Ala Lys Tyr Asp Ile Tyr Asn Ser
65 70 75 80

Leu Thr Lys Phe Asn Phe Gln Ser Leu Lys Tyr Lys Ala Lys Arg Ser
85 90 95

Gln Arg Phe Lys Pro Lys Gln Pro Lys Glu Leu Gln Glu Leu Ser Ile

```
            100                 105                 110

Ala Val Arg Lys Glu Lys Ala Leu Asp Ile Ile Gln Lys Ser Ile Asp
        115                 120                 125

His Leu Ile Gln Asp Ile Arg Pro Glu Ile Pro Arg Ile Lys Gln Gln
    130                 135                 140

Lys Arg Tyr Lys Asn His Val Gly Lys Leu Phe Tyr Leu Gln Lys Arg
145                 150                 155                 160

Arg Lys Asn Lys Leu Asn Leu Ile Gly Lys Gly Ser Phe Phe Lys Val
                165                 170                 175

Phe Ser Pro Lys Glu Lys Lys Asn Glu Leu Leu Val Ile Cys Ala Leu
            180                 185                 190

Thr Asn Ile Gly Arg Asp Ile Gly Leu Ile Gly Asn Tyr Asn Thr Ile
        195                 200                 205

Ile Asn Pro Leu Phe Glu Val Thr Tyr Gln Leu Tyr Tyr Asp Tyr Ile
    210                 215                 220

Pro Lys Lys Asn Asn Lys Asn Val Gln Arg Arg Leu Leu Tyr Ala Tyr
225                 230                 235                 240

Lys Ser Lys Asn Glu Lys Ile Leu Lys Leu Lys Glu Ala Phe Phe Lys
                245                 250                 255

Arg Gly His Glu Asn Ala Val Asn Leu Gly Ser Phe Ser Tyr Glu Lys
            260                 265                 270

Pro Leu Glu Lys Ser Leu Thr Leu Lys Ile Lys Asn Asp Lys Asp Asp
        275                 280                 285

Phe Gln Val Ser Pro Ser Leu Arg Ile Arg Thr Gly Arg Phe Phe Val
    290                 295                 300

Pro Ser Lys Arg Asn Leu Ser Arg Gln Glu Arg Glu Ile Asn Arg Arg
305                 310                 315                 320
```

```
Leu Val Lys Ile Lys Ser Lys Ile Lys Asn Met Thr Tyr Gly Lys Phe
                325                 330                 335

Glu Thr Ala Arg Asp Lys Gln Ser Val His Ile Phe Arg Leu Glu Arg
            340                 345                 350

Gln Lys Glu Lys Leu Pro Leu Gln Phe Arg Lys Asp Glu Lys Glu Phe
        355                 360                 365

Met Glu Glu Phe Gln Lys Leu Lys Arg Arg Thr Asn Ser Leu Lys Lys
    370                 375                 380

Leu Arg Lys Ser Arg Gln Lys Lys Leu Ala Asp Leu Leu Gln Leu Ser
385                 390                 395                 400

Glu Lys Val Val Tyr Asn Asn His Thr Gly Thr Leu Lys Lys Thr Ser
                405                 410                 415

Asn Phe Leu Asn Phe Ser Ser Ser Val Lys Arg Gly Lys Thr Ala Tyr
            420                 425                 430

Ile Lys Glu Leu Leu Gly Gln Glu Gly Phe Glu Thr Leu Tyr Cys Ser
        435                 440                 445

Asn Cys Ile Asn Lys Gly Gln Lys Thr Arg Tyr Asn Ile Glu Thr Lys
    450                 455                 460

Glu Lys Cys Phe Ser Cys Lys Asp Val Pro Phe Val Trp Lys Lys Lys
465                 470                 475                 480

Ser Thr Asp Lys Asp Arg Lys Gly Ala Phe Leu Phe Pro Ala Lys Leu
                485                 490                 495

Lys Asp Val Ile Lys Ala Thr Phe Thr Val Ala Lys Ala Tyr Glu Asp
            500                 505                 510

Phe Tyr Asp Asn Leu Lys Ser Ile Asp Glu Lys Lys Pro Tyr Ile Lys
        515                 520                 525

Phe Lys Ile Gly Leu Ile Leu Ala His Val Arg His Glu His Lys Ala
```

530 535 540

Arg Ala Lys Glu Glu Ala Gly Gln Lys Asn Ile Tyr Asn Lys Pro Ile
545 550 555 560

Lys Ile Asp Lys Asn Cys Lys Glu Cys Phe Phe Phe Lys Glu Glu Ala
565 570 575

Met

<210> 190
<211> 613
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 190

Asn Thr Thr Arg Lys Lys Phe Arg Lys Arg Thr Gly Phe Pro Gln Ser
1 5 10 15

Asp Asn Ile Lys Leu Ala Tyr Cys Ser Ala Ile Val Arg Ala Ala Asn
20 25 30

Leu Asp Ala Asp Ile Gln Lys Lys His Asn Gln Cys Asn Pro Asn Leu
35 40 45

Cys Val Gly Ile Lys Ser Asn Glu Gln Ser Arg Lys Tyr Glu His Ser
50 55 60

Asp Arg Gln Ala Leu Leu Cys Tyr Ala Cys Asn Gln Ser Thr Gly Ala
65 70 75 80

Pro Lys Val Asp Tyr Ile Gln Ile Gly Glu Ile Gly Ala Lys Tyr Lys
85 90 95

Ile Leu Gln Met Val Asn Ala Tyr Asp Phe Leu Ser Leu Ala Tyr Asn
100 105 110

Leu Thr Lys Leu Arg Asn Gly Lys Ser Arg Gly His Gln Arg Met Ser

```
        115                 120                 125

Gln Leu Asp Glu Val Val Ile Val Ala Asp Tyr Glu Lys Ala Thr Glu
    130                 135                 140

Val Ile Lys Arg Ser Ile Asn His Leu Leu Asp Asp Ile Arg Gly Gln
145                 150                 155                 160

Leu Ser Lys Leu Lys Lys Arg Thr Gln Asn Glu His Ile Thr Glu His
                165                 170                 175

Lys Gln Ser Lys Ile Arg Arg Lys Leu Arg Lys Leu Ser Arg Leu Leu
            180                 185                 190

Lys Arg Arg Arg Trp Lys Trp Gly Thr Ile Pro Asn Pro Tyr Leu Lys
        195                 200                 205

Asn Trp Val Phe Thr Lys Lys Asp Pro Glu Leu Val Thr Val Ala Leu
    210                 215                 220

Leu His Lys Leu Gly Arg Asp Ile Gly Leu Val Asn Arg Ser Lys Arg
225                 230                 235                 240

Arg Ser Lys Gln Lys Leu Leu Pro Lys Val Gly Phe Gln Leu Tyr Tyr
                245                 250                 255

Lys Trp Glu Ser Pro Ser Leu Asn Asn Ile Lys Lys Ser Lys Ala Lys
            260                 265                 270

Lys Leu Pro Lys Arg Leu Leu Ile Pro Tyr Lys Asn Val Lys Leu Phe
        275                 280                 285

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

Tyr Gln Lys Thr Ile Lys Val Glu Phe Asp Gln Phe Phe Gln Asn Arg
305                 310                 315                 320

Thr Glu Glu Ile Ile Ala Glu Glu Gln Gln Thr Leu Glu Arg Gly Leu
                325                 330                 335
```

```
Leu Lys Gln Leu Glu Lys Lys Lys Asn Glu Phe Ala Ser Gln Lys Lys
            340                 345                 350

Ala Leu Lys Glu Glu Lys Lys Lys Ile Lys Glu Pro Arg Lys Ala Lys
        355                 360                 365

Leu Leu Met Glu Glu Ser Arg Ser Leu Gly Phe Leu Met Ala Asn Val
    370                 375                 380

Ser Tyr Ala Leu Phe Asn Thr Thr Ile Glu Asp Leu Tyr Lys Lys Ser
385                 390                 395                 400

Asn Val Val Ser Gly Cys Ile Pro Gln Glu Pro Val Val Val Phe Pro
                405                 410                 415

Ala Asp Ile Gln Asn Lys Gly Ser Leu Ala Lys Ile Leu Phe Ala Pro
            420                 425                 430

Lys Asp Gly Phe Arg Ile Lys Phe Ser Gly Gln His Leu Thr Ile Arg
        435                 440                 445

Thr Ala Lys Phe Lys Ile Arg Gly Lys Glu Ile Lys Ile Leu Thr Lys
    450                 455                 460

Thr Lys Arg Glu Ile Leu Lys Asn Ile Glu Lys Leu Arg Arg Val Trp
465                 470                 475                 480

Tyr Arg Glu Gln His Tyr Lys Leu Lys Leu Phe Gly Lys Glu Val Ser
                485                 490                 495

Ala Lys Pro Arg Phe Leu Asp Lys Arg Lys Thr Ser Ile Glu Arg Arg
            500                 505                 510

Asp Pro Asn Lys Leu Ala Asp Gln Thr Asp Asp Arg Gln Ala Glu Leu
        515                 520                 525

Arg Asn Lys Glu Tyr Glu Leu Arg His Lys Gln His Lys Met Ala Glu
    530                 535                 540

Arg Leu Asp Asn Ile Asp Thr Asn Ala Gln Asn Leu Gln Thr Leu Ser
```

545 550 555 560

Phe Trp Val Gly Glu Ala Asp Lys Pro Pro Lys Leu Asp Glu Lys Asp
565 570 575

Ala Arg Gly Phe Gly Val Arg Thr Cys Ile Ser Ala Trp Lys Trp Phe
580 585 590

Met Glu Asp Leu Leu Lys Lys Gln Glu Glu Asp Pro Leu Leu Lys Leu
595 600 605

Lys Leu Ser Ile Met
610

<210> 191
<211> 615
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 191

Pro Lys Lys Pro Lys Phe Gln Lys Arg Thr Gly Phe Pro Gln Pro Asp
1 5 10 15

Asn Leu Arg Lys Glu Tyr Cys Leu Ala Ile Val Arg Ala Ala Asn Leu
20 25 30

Asp Ala Asp Phe Glu Lys Lys Cys Thr Lys Cys Glu Gly Ile Lys Thr
35 40 45

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

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

Ala Val Asp Tyr Val Phe Val Gly Ala Leu Glu Ala Lys Tyr Lys Ile
85 90 95

Leu Gln Met Val Lys Ala Tyr Asp Phe His Ser Leu Ala Tyr Asn Leu

```
            100                 105                 110

Ala Lys Leu Trp Lys Gly Arg Gly Arg Gly His Gln Arg Met Gly Gly
        115                 120                 125

Leu Asn Glu Val Val Ile Val Ser Asn Asn Glu Lys Ala Leu Asp Val
    130                 135                 140

Ile Glu Lys Ser Leu Asn His Phe His Asp Glu Ile Arg Gly Glu Leu
145                 150                 155                 160

Ser Arg Leu Lys Ala Lys Phe Gln Asn Glu His Leu His Val His Lys
                165                 170                 175

Glu Ser Lys Leu Arg Arg Lys Leu Arg Lys Ile Ser Arg Leu Leu Lys
            180                 185                 190

Arg Arg Arg Trp Lys Trp Asp Val Ile Pro Asn Ser Tyr Leu Arg Asn
        195                 200                 205

Phe Thr Phe Thr Lys Thr Arg Pro Asp Phe Ile Ser Val Ala Leu Leu
    210                 215                 220

His Arg Val Gly Arg Asp Ile Gly Leu Val Thr Lys Thr Lys Ile Pro
225                 230                 235                 240

Lys Pro Thr Asp Leu Leu Pro Gln Phe Gly Phe Gln Ile Tyr Tyr Thr
                245                 250                 255

Trp Asp Glu Pro Lys Leu Asn Lys Leu Lys Lys Ser Arg Leu Arg Ser
            260                 265                 270

Glu Pro Lys Arg Leu Leu Val Pro Tyr Lys Lys Ile Glu Leu Tyr Lys
        275                 280                 285

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

Thr Glu Asp Leu Thr Ile Cys Phe Lys Asp Phe Phe Glu Thr Gln Lys
305                 310                 315                 320
```

```
Arg Lys Phe Val Ser Lys Glu Lys Glu Ser Leu Lys Arg Glu Leu Leu
                325                 330                 335

Lys Glu Leu Thr Lys Leu Lys Lys Asp Phe Ser Glu Arg Lys Thr Ala
            340                 345                 350

Leu Lys Arg Asp Arg Lys Glu Ile Lys Glu Pro Lys Lys Ala Lys Leu
        355                 360                 365

Leu Met Glu Glu Ser Arg Ser Leu Gly Phe Leu Ala Ala Asn Thr Ser
    370                 375                 380

Tyr Ala Leu Phe Asn Leu Ile Ala Ala Asp Leu Tyr Thr Lys Ser Lys
385                 390                 395                 400

Lys Ala Cys Ser Thr Lys Leu Pro Arg Gln Leu Ser Thr Ile Leu Pro
                405                 410                 415

Leu Glu Ile Lys Glu His Lys Ser Thr Thr Ser Leu Ala Ile Lys Pro
            420                 425                 430

Glu Glu Gly Phe Lys Ile Arg Phe Ser Asn Thr His Leu Ser Ile Arg
        435                 440                 445

Thr Pro Lys Phe Lys Met Lys Gly Ala Asp Ile Lys Ala Leu Thr Lys
    450                 455                 460

Arg Lys Arg Glu Ile Leu Lys Asn Ala Thr Lys Leu Glu Lys Ser Trp
465                 470                 475                 480

Tyr Gly Leu Lys His Tyr Lys Leu Lys Leu Tyr Gly Lys Glu Val Ala
                485                 490                 495

Ala Lys Pro Arg Phe Leu Asp Lys Arg Asn Pro Ser Ile Asp Arg Arg
            500                 505                 510

Asp Pro Lys Glu Leu Met Glu Gln Ile Glu Asn Arg Arg Asn Glu Val
        515                 520                 525

Lys Asp Leu Glu Tyr Glu Ile Arg Lys Gly Gln His Gln Met Ala Lys
```

530 535 540

Arg Leu Asp Asn Val Asp Thr Asn Ala Gln Asn Leu Gln Thr Lys Ser
545 550 555 560

Phe Trp Val Gly Glu Ala Asp Lys Pro Pro Glu Leu Asp Ser Met Glu
565 570 575

Ala Lys Lys Leu Gly Leu Arg Thr Cys Ile Ser Ala Trp Lys Trp Phe
580 585 590

Met Lys Asp Leu Val Leu Leu Gln Glu Lys Ser Pro Asn Leu Lys Leu
595 600 605

Lys Leu Ser Leu Thr Glu Met
610 615

<210> 192
<211> 775
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 192

Lys Phe Ser Lys Arg Gln Glu Gly Phe Leu Ile Pro Asp Asn Ile Asp
1 5 10 15

Leu Tyr Lys Cys Leu Ala Ile Val Arg Ser Ala Asn Leu Asp Ala Asp
20 25 30

Val Gln Gly His Lys Ser Cys Tyr Gly Val Lys Lys Asn Gly Thr Tyr
35 40 45

Arg Val Lys Gln Asn Gly Lys Lys Gly Val Lys Glu Lys Gly Arg Lys
50 55 60

Tyr Val Phe Asp Leu Ile Ala Phe Lys Gly Asn Ile Glu Lys Ile Pro
65 70 75 80

His Glu Ala Ile Glu Glu Lys Asp Gln Gly Arg Val Ile Val Leu Gly

```
                85                  90                  95

Lys Phe Asn Tyr Lys Leu Ile Leu Asn Ile Glu Lys Asn His Asn Asp
            100                 105                 110

Arg Ala Ser Leu Glu Ile Lys Asn Lys Ile Lys Lys Leu Val Gln Ile
        115                 120                 125

Ser Ser Leu Glu Thr Gly Glu Phe Leu Ser Asp Leu Leu Ser Gly Lys
    130                 135                 140

Ile Gly Ile Asp Glu Val Tyr Gly Ile Ile Glu Pro Asp Val Phe Ser
145                 150                 155                 160

Gly Lys Glu Leu Val Cys Lys Ala Cys Gln Gln Ser Thr Tyr Ala Pro
                165                 170                 175

Leu Val Glu Tyr Met Pro Val Gly Glu Leu Asp Ala Lys Tyr Lys Ile
            180                 185                 190

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

Ser Arg Asn Arg Ala Asn Lys Lys Arg Gly His Gln Lys Leu Gly Gly
    210                 215                 220

Gly Glu Leu Ser Glu Val Val Ile Ser Ala Asn Tyr Asp Lys Ala Leu
225                 230                 235                 240

Asn Val Ile Lys Arg Ser Ile Asn His Tyr His Val Glu Ile Lys Pro
                245                 250                 255

Glu Ile Ser Lys Leu Lys Lys Lys Met Gln Asn Glu Pro Leu Lys Val
            260                 265                 270

Met Lys Gln Ala Arg Ile Arg Arg Glu Leu His Gln Leu Ser Arg Lys
        275                 280                 285

Val Lys Arg Leu Lys Trp Lys Trp Gly Met Ile Pro Asn Pro Glu Leu
    290                 295                 300
```

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

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

Met Leu Gln Val Pro Asn Ile Ser Asp Tyr Gly Phe Gln Ile Tyr Tyr
            340                 345                 350

Ser Trp Glu Asp Pro Lys Leu Asn Ser Ile Lys Lys Ile Lys Asp Leu
        355                 360                 365

Pro Lys Arg Leu Leu Ile Pro Tyr Lys Arg Leu Asp Phe Tyr Ile Asp
    370                 375                 380

Thr Ile Leu Val Ala Lys Val Ile Lys Asn Leu Ile Glu Leu Tyr Arg
385                 390                 395                 400

Lys Ser Tyr Val Tyr Glu Thr Phe Gly Glu Glu Tyr Gly Tyr Ala Lys
                405                 410                 415

Lys Ala Glu Asp Ile Leu Phe Asp Trp Asp Ser Ile Asn Leu Ser Glu
            420                 425                 430

Gly Ile Glu Gln Lys Ile Gln Lys Ile Lys Asp Glu Phe Ser Asp Leu
        435                 440                 445

Leu Tyr Glu Ala Arg Glu Ser Lys Arg Gln Asn Phe Val Glu Ser Phe
    450                 455                 460

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

Ser Tyr Gln Glu Lys Ile Gln Ser Met Ile Ile Lys Lys Gln Gln Glu
                485                 490                 495

Asn Ile Glu Gln Lys Leu Lys Arg Glu Phe Lys Glu Val Ile Glu Arg
            500                 505                 510

Gly Phe Glu Gly Met Asp Gln Asn Lys Lys Tyr Tyr Lys Val Leu Ser
```

```
        515                 520                 525

Pro Asn Ile Lys Gly Gly Leu Leu Tyr Thr Asp Thr Asn Asn Leu Gly
    530                 535                 540

Phe Phe Arg Ser His Leu Ala Phe Met Leu Leu Ser Lys Ile Ser Asp
545                 550                 555                 560

Asp Leu Tyr Arg Lys Asn Asn Leu Val Ser Lys Gly Gly Asn Lys Gly
                565                 570                 575

Ile Leu Asp Gln Thr Pro Glu Thr Met Leu Thr Leu Glu Phe Gly Lys
            580                 585                 590

Ser Asn Leu Pro Asn Ile Ser Ile Lys Arg Lys Phe Phe Asn Ile Lys
        595                 600                 605

Tyr Asn Ser Ser Trp Ile Gly Ile Arg Lys Pro Lys Phe Ser Ile Lys
    610                 615                 620

Gly Ala Val Ile Arg Glu Ile Thr Lys Lys Val Arg Asp Glu Gln Arg
625                 630                 635                 640

Leu Ile Lys Ser Leu Glu Gly Val Trp His Lys Ser Thr His Phe Lys
                645                 650                 655

Arg Trp Gly Lys Pro Arg Phe Asn Leu Pro Arg His Pro Asp Arg Glu
            660                 665                 670

Lys Asn Asn Asp Asp Asn Leu Met Glu Ser Ile Thr Ser Arg Arg Glu
        675                 680                 685

Gln Ile Gln Leu Leu Leu Arg Glu Lys Gln Lys Gln Gln Glu Lys Met
    690                 695                 700

Ala Gly Arg Leu Asp Lys Ile Asp Lys Glu Ile Gln Asn Leu Gln Thr
705                 710                 715                 720

Ala Asn Phe Gln Ile Lys Gln Ile Asp Lys Lys Pro Ala Leu Thr Glu
                725                 730                 735
```

Lys Ser Glu Gly Lys Gln Ser Val Arg Asn Ala Leu Ser Ala Trp Lys
740 745 750

Trp Phe Met Glu Asp Leu Ile Lys Tyr Gln Lys Arg Thr Pro Ile Leu
755 760 765

Gln Leu Lys Leu Ala Lys Met
770 775

<210> 193
<211> 777
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 193

Lys Phe Ser Lys Arg Gln Glu Gly Phe Val Ile Pro Glu Asn Ile Gly
1 5 10 15

Leu Tyr Lys Cys Leu Ala Ile Val Arg Ser Ala Asn Leu Asp Ala Asp
20 25 30

Val Gln Gly His Val Ser Cys Tyr Gly Val Lys Lys Asn Gly Thr Tyr
35 40 45

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

Tyr Ala Ser Asp Leu Val Ala Phe Lys Gly Asp Ile Glu Lys Ile Pro
65 70 75 80

Phe Glu Val Ile Glu Glu Lys Lys Lys Glu Gln Ser Ile Val Leu Gly
85 90 95

Lys Phe Asn Tyr Lys Leu Val Leu Asp Val Met Lys Gly Glu Lys Asp
100 105 110

Arg Ala Ser Leu Thr Met Lys Asn Lys Ser Lys Lys Leu Val Gln Val
115 120 125

```
Ser Ser Leu Gly Thr Asp Glu Phe Leu Leu Thr Leu Leu Asn Glu Lys
    130                 135                 140

Phe Gly Ile Glu Glu Ile Tyr Gly Ile Ile Glu Pro Glu Val Phe Ser
145                 150                 155                 160

Gly Lys Lys Leu Val Cys Lys Ala Cys Gln Gln Ser Thr Tyr Ala Pro
                165                 170                 175

Leu Val Glu Tyr Met Pro Val Gly Glu Leu Asp Ser Lys Tyr Lys Ile
            180                 185                 190

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

Ala Arg His Arg Ser Asn Lys Lys Arg Gly His Gln Lys Leu Gly Gly
    210                 215                 220

Gly Glu Leu Ser Glu Val Val Ile Ser Ala Asn Asn Ala Lys Ala Leu
225                 230                 235                 240

Asn Val Ile Lys Arg Ser Leu Asn His Tyr Tyr Ser Glu Ile Lys Pro
                245                 250                 255

Glu Ile Ser Lys Leu Arg Lys Lys Met Gln Asn Glu Pro Leu Lys Val
            260                 265                 270

Gly Lys Gln Ala Arg Met Arg Arg Glu Leu His Gln Leu Ser Arg Lys
        275                 280                 285

Val Lys Arg Leu Lys Trp Lys Trp Gly Lys Ile Pro Asn Leu Glu Leu
    290                 295                 300

Gln Asn Ile Thr Phe Lys Glu Ser Asp Arg Asp Phe Ile Ser Tyr Ala
305                 310                 315                 320

Leu Leu His Thr Leu Gly Arg Asp Ile Gly Met Phe Asn Lys Thr Glu
                325                 330                 335

Ile Lys Met Pro Ser Asn Ile Leu Gly Tyr Gly Phe Gln Ile Tyr Tyr
```

```
            340                 345                 350

Asp Trp Glu Glu Pro Lys Leu Asn Thr Ile Lys Lys Ser Lys Asn Thr
        355                 360                 365

Pro Lys Arg Ile Leu Ile Pro Tyr Lys Lys Leu Asp Phe Tyr Asn Asp
    370                 375                 380

Ser Ile Leu Val Ala Arg Ala Ile Lys Glu Leu Val Gly Leu Phe Gln
385                 390                 395                 400

Glu Ser Tyr Glu Trp Glu Ile Phe Gly Asn Glu Tyr Asn Tyr Ala Lys
                405                 410                 415

Glu Ala Glu Val Glu Leu Ile Lys Leu Asp Glu Glu Ser Ile Asn Gly
            420                 425                 430

Asn Val Glu Lys Lys Leu Gln Arg Ile Lys Glu Asn Phe Ser Asn Leu
        435                 440                 445

Leu Glu Lys Ala Arg Glu Lys Lys Arg Gln Asn Phe Ile Glu Ser Phe
    450                 455                 460

Glu Ser Ile Ala Arg Leu Tyr Asp Glu Ser Phe Thr Ala Asp Arg Asn
465                 470                 475                 480

Glu Tyr Gln Arg Glu Ile Gln Ser Phe Ile Ile Glu Lys Gln Lys Gln
                485                 490                 495

Ser Ile Glu Lys Lys Leu Lys Asn Glu Phe Lys Lys Ile Val Glu Lys
            500                 505                 510

Lys Phe Asn Glu Gln Glu Gln Gly Lys Lys His Tyr Arg Val Leu Asn
        515                 520                 525

Pro Thr Ile Ile Asn Glu Phe Leu Pro Lys Asp Lys Asn Asn Leu Gly
    530                 535                 540

Phe Leu Arg Ser Lys Ile Ala Phe Ile Leu Leu Ser Lys Ile Ser Asp
545                 550                 555                 560
```

```
Asp Leu Tyr Lys Lys Ser Asn Ala Val Ser Lys Gly Gly Glu Lys Gly
                565                 570                 575

Ile Ile Lys Gln Gln Pro Glu Thr Ile Leu Asp Leu Glu Phe Ser Lys
            580                 585                 590

Ser Lys Leu Pro Ser Ile Asn Ile Lys Lys Lys Leu Phe Asn Ile Lys
        595                 600                 605

Tyr Thr Ser Ser Trp Leu Gly Ile Arg Lys Pro Lys Phe Asn Ile Lys
    610                 615                 620

Gly Ala Lys Ile Arg Glu Ile Thr Arg Arg Val Arg Asp Val Gln Arg
625                 630                 635                 640

Thr Leu Lys Ser Ala Glu Ser Ser Trp Tyr Ala Ser Thr His Phe Arg
                645                 650                 655

Arg Trp Gly Phe Pro Arg Phe Asn Gln Pro Arg His Pro Asp Lys Glu
            660                 665                 670

Lys Lys Ser Asp Asp Arg Leu Ile Glu Ser Ile Thr Leu Leu Arg Glu
        675                 680                 685

Gln Ile Gln Ile Leu Leu Arg Glu Lys Gln Lys Gly Gln Lys Glu Met
    690                 695                 700

Ala Gly Arg Leu Asp Asp Val Asp Lys Lys Ile Gln Asn Leu Gln Thr
705                 710                 715                 720

Ala Asn Phe Gln Ile Lys Gln Thr Gly Asp Lys Pro Ala Leu Thr Glu
                725                 730                 735

Lys Ser Ala Gly Lys Gln Ser Phe Arg Asn Ala Leu Ser Ala Trp Lys
            740                 745                 750

Trp Phe Met Glu Asn Leu Leu Lys Tyr Gln Asn Lys Thr Pro Asp Leu
        755                 760                 765

Lys Leu Lys Ile Ala Arg Thr Val Met
```

770 775

<210> 194
<211> 610
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 194

Lys Trp Ile Glu Pro Asn Asn Ile Asp Phe Asn Lys Cys Leu Ala Ile
1 5 10 15

Thr Arg Ser Ala Asn Leu Asp Ala Asp Val Gln Gly His Lys Met Cys
20 25 30

Tyr Gly Ile Lys Thr Asn Gly Thr Tyr Lys Ala Ile Gly Lys Ile Asn
35 40 45

Lys Lys His Asn Thr Gly Ile Ile Glu Lys Arg Arg Thr Tyr Val Tyr
50 55 60

Asp Leu Ile Val Thr Lys Glu Lys Asn Glu Lys Ile Val Lys Lys Thr
65 70 75 80

Asp Phe Met Ala Ile Asp Glu Glu Ile Glu Phe Asp Glu Lys Lys Glu
85 90 95

Lys Leu Leu Lys Lys Tyr Ile Lys Ala Glu Val Leu Gly Thr Gly Glu
100 105 110

Leu Ile Arg Lys Asp Leu Asn Asp Gly Glu Lys Phe Asp Asp Leu Cys
115 120 125

Ser Ile Glu Glu Pro Gln Ala Phe Arg Arg Ser Glu Leu Val Cys Lys
130 135 140

Ala Cys Asn Gln Ser Thr Tyr Ala Ser Asp Ile Arg Tyr Ile Pro Ile
145 150 155 160

Gly Glu Ile Glu Ala Lys Tyr Lys Ile Leu Lys Ala Ile Lys Gly Tyr

```
                165                 170                 175

Asp Phe Leu Ser Leu Lys Tyr Asn Leu Gly Arg Leu Arg Asp Ser Lys
            180                 185                 190

Lys Arg Gly His Gln Lys Met Gly Gln Gly Glu Leu Lys Glu Phe Val
        195                 200                 205

Ile Cys Ala Asn Lys Glu Lys Ala Leu Asp Val Ile Lys Arg Ser Leu
    210                 215                 220

Asn His Tyr Leu Asn Glu Val Lys Asp Glu Ile Ser Arg Leu Asn Lys
225                 230                 235                 240

Lys Met Gln Asn Glu Pro Leu Lys Val Asn Asp Gln Ala Arg Trp Arg
                245                 250                 255

Arg Glu Leu Asn Gln Ile Ser Arg Arg Leu Lys Arg Leu Lys Trp Lys
            260                 265                 270

Trp Gly Glu Ile Pro Asn Pro Glu Leu Lys Asn Leu Ile Phe Lys Ser
        275                 280                 285

Ser Arg Pro Glu Phe Val Ser Tyr Ala Leu Ile His Thr Leu Gly Arg
    290                 295                 300

Asp Ile Gly Leu Ile Asn Glu Thr Glu Leu Lys Pro Asn Asn Ile Gln
305                 310                 315                 320

Glu Tyr Gly Phe Gln Ile Tyr Tyr Lys Trp Glu Asp Pro Glu Leu Asn
                325                 330                 335

His Ile Lys Lys Val Lys Asn Ile Pro Lys Arg Phe Ile Ile Pro Tyr
            340                 345                 350

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

Glu Gly Ile Leu Lys Leu Tyr Ser Ser Ser Phe Gln Tyr Lys Ser Phe
    370                 375                 380
```

```
Lys Asp Pro Asn Leu Phe Ala Lys Glu Gly Glu Lys Lys Ile Thr Asn
385                 390                 395                 400

Glu Asp Phe Glu Leu Gly Tyr Asp Glu Lys Ile Lys Lys Ile Lys Asp
                405                 410                 415

Asp Phe Lys Ser Tyr Lys Lys Ala Leu Leu Glu Lys Lys Lys Asn Thr
            420                 425                 430

Leu Glu Asp Ser Leu Asn Ser Ile Leu Ser Val Tyr Glu Gln Ser Leu
        435                 440                 445

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

Lys Ser Lys Glu Ser Ile His Lys Gln Lys Lys Ile Glu Asn Ile Glu
465                 470                 475                 480

Asp Ile Ile Ser Arg Ile Glu Glu Leu Lys Asn Val Glu Gly Trp Ile
                485                 490                 495

Arg Thr Lys Glu Arg Asp Ile Val Asn Lys Glu Glu Thr Asn Leu Lys
            500                 505                 510

Arg Glu Ile Lys Lys Glu Leu Lys Asp Ser Tyr Tyr Glu Glu Val Arg
        515                 520                 525

Lys Asp Phe Ser Asp Leu Lys Lys Gly Glu Glu Ser Glu Lys Lys Pro
    530                 535                 540

Phe Arg Glu Glu Pro Lys Pro Ile Val Ile Lys Asp Tyr Ile Lys Phe
545                 550                 555                 560

Asp Val Leu Pro Gly Glu Asn Ser Ala Leu Gly Phe Phe Leu Ser His
                565                 570                 575

Leu Ser Phe Asn Leu Phe Asp Ser Ile Gln Tyr Glu Leu Phe Glu Lys
            580                 585                 590

Ser Arg Leu Ser Ser Ser Lys His Pro Gln Ile Pro Glu Thr Ile Leu
```

595 600 605

Asp Leu
610

<210> 195
<211> 632
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 195

Phe Arg Lys Phe Val Lys Arg Ser Gly Ala Pro Gln Pro Asp Asn Leu
1 5 10 15

Asn Lys Tyr Lys Cys Ile Ala Ile Val Arg Ala Ala Asn Leu Asp Ala
20 25 30

Asp Ile Met Ser Asn Glu Ser Ser Asn Cys Val Met Cys Lys Gly Ile
35 40 45

Lys Met Asn Lys Arg Lys Thr Ala Lys Gly Ala Ala Lys Thr Thr Glu
50 55 60

Leu Gly Arg Val Tyr Ala Gly Gln Ser Gly Asn Leu Leu Cys Thr Ala
65 70 75 80

Cys Thr Lys Ser Thr Met Gly Pro Leu Val Asp Tyr Val Pro Ile Gly
85 90 95

Arg Ile Arg Ala Lys Tyr Thr Ile Leu Arg Ala Val Lys Glu Tyr Asp
100 105 110

Phe Leu Ser Leu Ala Tyr Asn Leu Ala Arg Thr Arg Val Ser Lys Lys
115 120 125

Gly Gly Arg Gln Lys Met His Ser Leu Ser Glu Leu Val Ile Ala Ala
130 135 140

Glu Tyr Glu Ile Ala Trp Asn Ile Ile Lys Ser Ser Val Ile His Tyr

```
145                 150                 155                 160

His Gln Glu Thr Lys Glu Glu Ile Ser Gly Leu Arg Lys Lys Leu Gln
                165                 170                 175

Ala Glu His Ile His Lys Asn Lys Glu Ala Arg Ile Arg Arg Glu Met
            180                 185                 190

His Gln Ile Ser Arg Arg Ile Lys Arg Leu Lys Trp Lys Trp His Met
        195                 200                 205

Ile Pro Asn Ser Glu Leu His Asn Phe Leu Phe Lys Gln Gln Asp Pro
    210                 215                 220

Ser Phe Val Ala Val Ala Leu Leu His Thr Leu Gly Arg Asp Ile Gly
225                 230                 235                 240

Met Ile Asn Lys Pro Lys Gly Ser Ala Lys Arg Glu Phe Ile Pro Glu
                245                 250                 255

Tyr Gly Phe Gln Ile Tyr Tyr Lys Trp Met Asn Pro Lys Leu Asn Asp
            260                 265                 270

Ile Asn Lys Gln Lys Tyr Arg Lys Met Pro Lys Arg Ser Leu Ile Pro
        275                 280                 285

Tyr Lys Asn Leu Asn Val Phe Gly Asp Arg Glu Leu Ile Glu Asn Ala
    290                 295                 300

Met His Lys Leu Leu Lys Leu Tyr Asp Glu Asn Leu Glu Val Lys Gly
305                 310                 315                 320

Ser Lys Phe Phe Lys Thr Arg Val Val Ala Ile Ser Ser Lys Glu Ser
                325                 330                 335

Glu Lys Leu Lys Arg Asp Leu Leu Trp Lys Gly Glu Leu Ala Lys Ile
            340                 345                 350

Lys Lys Asp Phe Asn Ala Asp Lys Asn Lys Met Gln Glu Leu Phe Lys
        355                 360                 365
```

```
Glu Val Lys Glu Pro Lys Lys Ala Asn Ala Leu Met Lys Gln Ser Arg
    370                 375                 380

Asn Met Gly Phe Leu Leu Gln Asn Ile Ser Tyr Gly Ala Leu Gly Leu
385                 390                 395                 400

Leu Ala Asn Arg Met Tyr Glu Ala Ser Ala Lys Gln Ser Lys Gly Asp
                405                 410                 415

Ala Thr Lys Gln Pro Ser Ile Val Ile Pro Leu Glu Met Glu Phe Gly
            420                 425                 430

Asn Ala Phe Pro Lys Leu Leu Leu Arg Ser Gly Lys Phe Ala Met Asn
        435                 440                 445

Val Ser Ser Pro Trp Leu Thr Ile Arg Lys Pro Lys Phe Val Ile Lys
    450                 455                 460

Gly Asn Lys Ile Lys Asn Ile Thr Lys Leu Met Lys Asp Glu Lys Ala
465                 470                 475                 480

Lys Leu Lys Arg Leu Glu Thr Ser Tyr His Arg Ala Thr His Phe Arg
                485                 490                 495

Pro Thr Leu Arg Gly Ser Ile Asp Trp Asp Ser Pro Tyr Phe Ser Ser
            500                 505                 510

Pro Lys Gln Pro Asn Thr His Arg Arg Ser Pro Asp Arg Leu Ser Ala
        515                 520                 525

Asp Ile Thr Glu Tyr Arg Gly Arg Leu Lys Ser Val Glu Ala Glu Leu
    530                 535                 540

Arg Glu Gly Gln Arg Ala Met Ala Lys Lys Leu Asp Ser Val Asp Met
545                 550                 555                 560

Thr Ala Ser Asn Leu Gln Thr Ser Asn Phe Gln Leu Glu Lys Gly Glu
                565                 570                 575

Asp Pro Arg Leu Thr Glu Ile Asp Glu Lys Gly Arg Ser Ile Arg Asn
```

580 585 590

Cys Ile Ser Ser Trp Lys Lys Phe Met Glu Asp Leu Met Lys Ala Gln
595 600 605

Glu Ala Asn Pro Val Ile Lys Ile Lys Ile Ala Leu Lys Asp Glu Ser
610 615 620

Ser Val Leu Ser Glu Asp Ser Met
625 630

<210> 196
<211> 625
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 196

Lys Phe His Pro Glu Asn Leu Asn Lys Ser Tyr Cys Leu Ala Ile Val
1 5 10 15

Arg Ala Ala Asn Leu Asp Ala Asp Ile Gln Gly His Ile Asn Cys Ile
20 25 30

Gly Ile Lys Ser Asn Lys Ser Asp Arg Asn Tyr Glu Asn Lys Leu Glu
35 40 45

Ser Leu Gln Asn Val Glu Leu Leu Cys Lys Ala Cys Thr Lys Ser Thr
50 55 60

Tyr Lys Pro Asn Ile Asn Ser Val Pro Val Gly Glu Lys Lys Ala Lys
65 70 75 80

Tyr Ser Ile Leu Ser Glu Ile Lys Lys Tyr Asp Phe Asn Ser Leu Val
85 90 95

Tyr Asn Leu Lys Lys Tyr Arg Lys Gly Lys Ser Arg Gly His Gln Lys
100 105 110

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

```
        115                 120                 125

Leu Asp Val Ile Asn Lys Ser Val Asn His Tyr Leu Val Asn Ile Lys
    130                 135                 140

Asn Lys Met Ser Lys Leu Lys Lys Ile Leu Gln Asn Glu His Ile His
145                 150                 155                 160

Val Gly Thr Leu Ala Arg Ile Arg Arg Glu Arg Asn Arg Ile Ser Arg
                165                 170                 175

Lys Leu Asp His Tyr Arg Lys Lys Trp Lys Phe Val Pro Asn Lys Ile
            180                 185                 190

Leu Lys Asn Tyr Val Phe Lys Asn Gln Ser Pro Asp Phe Val Ser Val
        195                 200                 205

Ala Leu Leu His Lys Leu Gly Arg Asp Ile Gly Leu Ile Thr Lys Thr
    210                 215                 220

Ala Ile Leu Gln Lys Ser Phe Pro Glu Tyr Ser Leu Gln Leu Tyr Tyr
225                 230                 235                 240

Lys Tyr Asp Thr Pro Lys Leu Asn Tyr Leu Lys Lys Ser Lys Phe Lys
                245                 250                 255

Ser Leu Pro Lys Arg Ile Leu Ile Ser Tyr Lys Tyr Pro Lys Phe Asp
            260                 265                 270

Ile Asn Ser Asn Tyr Ile Glu Glu Ser Ile Asp Lys Leu Leu Lys Leu
        275                 280                 285

Tyr Glu Glu Ser Pro Ile Tyr Lys Asn Asn Ser Lys Ile Ile Glu Phe
    290                 295                 300

Phe Lys Lys Ser Glu Asp Asn Leu Ile Lys Ser Glu Asn Asp Ser Leu
305                 310                 315                 320

Lys Arg Gly Ile Met Lys Glu Phe Glu Lys Val Thr Lys Asn Phe Ser
                325                 330                 335
```

```
Ser Lys Lys Lys Lys Leu Lys Glu Glu Leu Lys Leu Lys Asn Glu Asp
            340                 345                 350

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

Lys Ala Tyr Leu Ser Tyr Met Leu Phe Asn Ile Ile Ser Asn Arg Ile
    370                 375                 380

Phe Glu Phe Ser Arg Lys Ser Ser Gly Arg Ile Pro Gln Leu Pro Ser
385                 390                 395                 400

Cys Ile Ile Asn Leu Gly Asn Gln Phe Glu Asn Phe Lys Asn Glu Leu
                405                 410                 415

Gln Asp Ser Asn Ile Gly Ser Lys Lys Asn Tyr Lys Tyr Phe Cys Asn
            420                 425                 430

Leu Leu Leu Lys Ser Ser Gly Phe Asn Ile Ser Tyr Glu Glu Glu His
        435                 440                 445

Leu Ser Ile Lys Thr Pro Asn Phe Phe Ile Asn Gly Arg Lys Leu Lys
    450                 455                 460

Glu Ile Thr Ser Glu Lys Lys Lys Ile Arg Lys Glu Asn Glu Gln Leu
465                 470                 475                 480

Ile Lys Gln Trp Lys Lys Leu Thr Phe Phe Lys Pro Ser Asn Leu Asn
                485                 490                 495

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

Asp Ile Glu Arg Lys Ser Glu Asp Asn Ile Val Glu Asn Ile Ala Lys
        515                 520                 525

Val Lys Tyr Lys Leu Glu Asp Leu Leu Ser Glu Gln Arg Lys Glu Phe
    530                 535                 540

Asn Lys Leu Ala Lys Lys His Asp Gly Val Asp Val Glu Ala Gln Cys
```

545 550 555 560

Leu Gln Thr Lys Ser Phe Trp Ile Asp Ser Asn Ser Pro Ile Lys Lys
565 570 575

Ser Leu Glu Lys Lys Asn Glu Lys Val Ser Val Lys Lys Lys Met Lys
580 585 590

Ala Ile Arg Ser Cys Ile Ser Ala Trp Lys Trp Phe Met Ala Asp Leu
595 600 605

Ile Glu Ala Gln Lys Glu Thr Pro Met Ile Lys Leu Lys Leu Ala Leu
610 615 620

Met
625

<210> 197
<211> 517
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 197

Thr Thr Leu Val Pro Ser His Leu Ala Gly Ile Glu Val Met Asp Glu
1 5 10 15

Thr Thr Ser Arg Asn Glu Asp Met Ile Gln Lys Glu Thr Ser Arg Ser
20 25 30

Asn Glu Asp Glu Asn Tyr Leu Gly Val Lys Asn Lys Cys Gly Ile Asn
35 40 45

Val His Lys Ser Gly Arg Gly Ser Ser Lys His Glu Pro Asn Met Pro
50 55 60

Pro Glu Lys Ser Gly Glu Gly Gln Met Pro Lys Gln Asp Ser Thr Glu
65 70 75 80

Met Gln Gln Arg Phe Asp Glu Ser Val Thr Gly Glu Thr Gln Val Ser

```
                85                  90                  95

Ala Gly Ala Thr Ala Ser Ile Lys Thr Asp Ala Arg Ala Asn Ser Gly
            100                 105                 110

Pro Arg Val Gly Thr Ala Arg Ala Leu Ile Val Lys Ala Ser Asn Leu
        115                 120                 125

Asp Arg Asp Ile Lys Leu Gly Cys Lys Pro Cys Glu Tyr Ile Arg Ser
    130                 135                 140

Glu Leu Pro Met Gly Lys Lys Asn Gly Cys Asn His Cys Glu Lys Ser
145                 150                 155                 160

Ser Asp Ile Ala Ser Val Pro Lys Val Glu Ser Gly Phe Arg Lys Ala
                165                 170                 175

Lys Tyr Glu Leu Val Arg Arg Phe Glu Ser Phe Ala Ala Asp Ser Ile
            180                 185                 190

Ser Arg His Leu Gly Lys Glu Gln Ala Arg Thr Arg Gly Lys Arg Gly
        195                 200                 205

Lys Lys Asp Lys Lys Glu Gln Met Gly Lys Val Asn Leu Asp Glu Ile
    210                 215                 220

Ala Ile Leu Lys Asn Glu Ser Leu Ile Glu Tyr Thr Glu Asn Gln Ile
225                 230                 235                 240

Leu Asp Ala Arg Ser Asn Arg Ile Lys Glu Trp Leu Arg Ser Leu Arg
                245                 250                 255

Leu Arg Leu Arg Thr Arg Asn Lys Gly Leu Lys Lys Ser Lys Ser Ile
            260                 265                 270

Arg Arg Gln Leu Ile Thr Leu Arg Arg Asp Tyr Arg Lys Trp Ile Lys
        275                 280                 285

Pro Asn Pro Tyr Arg Pro Asp Glu Asp Pro Asn Glu Asn Ser Leu Arg
    290                 295                 300
```

```
Leu His Thr Lys Leu Gly Val Asp Ile Gly Val Gln Gly Gly Asp Asn
305                 310                 315                 320

Lys Arg Met Asn Ser Asp Asp Tyr Glu Thr Ser Phe Ser Ile Thr Trp
                325                 330                 335

Arg Asp Thr Ala Thr Arg Lys Ile Cys Phe Thr Lys Pro Lys Gly Leu
            340                 345                 350

Leu Pro Arg His Met Lys Phe Lys Leu Arg Gly Tyr Pro Glu Leu Ile
        355                 360                 365

Leu Tyr Asn Glu Glu Leu Arg Ile Gln Asp Ser Gln Lys Phe Pro Leu
    370                 375                 380

Val Asp Trp Glu Arg Ile Pro Ile Phe Lys Leu Arg Gly Val Ser Leu
385                 390                 395                 400

Gly Lys Lys Lys Val Lys Ala Leu Asn Arg Ile Thr Glu Ala Pro Arg
                405                 410                 415

Leu Val Val Ala Lys Arg Ile Gln Val Asn Ile Glu Ser Lys Lys Lys
            420                 425                 430

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

Leu Val Lys Ala Glu Asp Ser Asn Lys Asp Pro Leu Leu Glu Phe Lys
    450                 455                 460

Lys Gln Ala Glu Glu Ile Asn Ser Asp Ala Lys Tyr Tyr Glu Asn Gln
465                 470                 475                 480

Glu Ile Ala Lys Asn Tyr Leu Trp Gly Cys Glu Gly Leu His Lys Asn
                485                 490                 495

Leu Leu Glu Glu Gln Thr Lys Asn Pro Tyr Leu Ala Phe Lys Tyr Gly
            500                 505                 510

Phe Leu Asn Ile Val
```

515

<210> 198
<211> 410
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 198

Leu Asp Phe Lys Arg Thr Cys Ser Gln Glu Leu Val Leu Leu Pro Glu
1 5 10 15

Ile Glu Gly Leu Lys Leu Ser Gly Thr Gln Gly Val Thr Ser Leu Ala
20 25 30

Lys Lys Leu Ile Asn Lys Ala Ala Asn Val Asp Arg Asp Glu Ser Tyr
35 40 45

Gly Cys His His Cys Ile His Thr Arg Thr Ser Leu Ser Lys Pro Val
50 55 60

Lys Lys Asp Cys Asn Ser Cys Asn Gln Ser Thr Asn His Pro Ala Val
65 70 75 80

Pro Ile Thr Leu Lys Gly Tyr Lys Ile Ala Phe Tyr Glu Leu Trp His
85 90 95

Arg Phe Thr Ser Trp Ala Val Asp Ser Ile Ser Lys Ala Leu His Arg
100 105 110

Asn Lys Val Met Gly Lys Val Asn Leu Asp Glu Tyr Ala Val Val Asp
115 120 125

Asn Ser His Ile Val Cys Tyr Ala Val Arg Lys Cys Tyr Glu Lys Arg
130 135 140

Gln Arg Ser Val Arg Leu His Lys Arg Ala Tyr Arg Cys Arg Ala Lys
145 150 155 160

His Tyr Asn Lys Ser Gln Pro Lys Val Gly Arg Ile Tyr Lys Lys Ser

```
                165                 170                 175

Lys Arg Arg Asn Ala Arg Asn Leu Lys Lys Glu Ala Lys Arg Tyr Phe
            180                 185                 190

Gln Pro Asn Glu Ile Thr Asn Gly Ser Ser Asp Ala Leu Phe Tyr Lys
        195                 200                 205

Ile Gly Val Asp Leu Gly Ile Ala Lys Gly Thr Pro Glu Thr Glu Val
    210                 215                 220

Lys Val Asp Val Ser Ile Cys Phe Gln Val Tyr Tyr Gly Asp Ala Arg
225                 230                 235                 240

Arg Val Leu Arg Val Arg Lys Met Asp Glu Leu Gln Ser Phe His Leu
                245                 250                 255

Asp Tyr Thr Gly Lys Leu Lys Leu Lys Gly Ile Gly Asn Lys Asp Thr
            260                 265                 270

Phe Thr Ile Ala Lys Arg Asn Glu Ser Leu Lys Trp Gly Ser Thr Lys
        275                 280                 285

Tyr Glu Val Ser Arg Ala His Lys Lys Phe Lys Pro Phe Gly Lys Lys
    290                 295                 300

Gly Ser Val Lys Arg Lys Cys Asn Asp Tyr Phe Arg Ser Ile Ala Ser
305                 310                 315                 320

Trp Ser Cys Glu Ala Ala Ser Gln Arg Ala Gln Ser Asn Leu Lys Asn
                325                 330                 335

Ala Phe Pro Tyr Gln Lys Ala Leu Val Lys Cys Tyr Lys Asn Leu Asp
            340                 345                 350

Tyr Lys Gly Val Lys Lys Asn Asp Met Trp Tyr Arg Leu Cys Ser Asn
        355                 360                 365

Arg Ile Phe Arg Tyr Ser Arg Ile Ala Glu Asp Ile Ala Gln Tyr Gln
    370                 375                 380
```

Ser Asp Lys Gly Lys Ala Lys Phe Glu Phe Val Ile Leu Ala Gln Ser
385 390 395 400

Val Ala Glu Tyr Asp Ile Ser Ala Ile Met
405 410

<210> 199
<211> 602
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 199

Val Phe Leu Thr Asp Asp Lys Arg Lys Thr Ala Leu Arg Lys Ile Arg
1 5 10 15

Ser Ala Phe Arg Lys Thr Ala Glu Ile Ala Leu Val Arg Ala Gln Glu
20 25 30

Ala Asp Ser Leu Asp Arg Gln Ala Lys Lys Leu Thr Ile Glu Thr Val
35 40 45

Ser Phe Gly Ala Pro Gly Ala Lys Asn Ala Phe Ile Gly Ser Leu Gln
50 55 60

Gly Tyr Asn Trp Asn Ser His Arg Ala Asn Val Pro Ser Ser Gly Ser
65 70 75 80

Ala Lys Asp Val Phe Arg Ile Thr Glu Leu Gly Leu Gly Ile Pro Gln
85 90 95

Ser Ala His Glu Ala Ser Ile Gly Lys Ser Phe Glu Leu Val Gly Asn
100 105 110

Val Val Arg Tyr Thr Ala Asn Leu Leu Ser Lys Gly Tyr Lys Lys Gly
115 120 125

Ala Val Asn Lys Gly Ala Lys Gln Gln Arg Glu Ile Lys Gly Lys Glu
130 135 140

```
Gln Leu Ser Phe Asp Leu Ile Ser Asn Gly Pro Ile Ser Gly Asp Lys
145                 150                 155                 160

Leu Ile Asn Gly Gln Lys Asp Ala Leu Ala Trp Trp Leu Ile Asp Lys
                165                 170                 175

Met Gly Phe His Ile Gly Leu Ala Met Glu Pro Leu Ser Ser Pro Asn
            180                 185                 190

Thr Tyr Gly Ile Thr Leu Gln Ala Phe Trp Lys Arg His Thr Ala Pro
        195                 200                 205

Arg Arg Tyr Ser Arg Gly Val Ile Arg Gln Trp Gln Leu Pro Phe Gly
    210                 215                 220

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

Ser Ile Pro Ile Val Leu Thr Asn Ala Ser Lys Lys Leu Ala Gly Lys
                245                 250                 255

Gly Val Leu Leu Glu Gln Thr Ala Leu Val Asp Pro Lys Lys Trp Trp
            260                 265                 270

Gln Val Lys Glu Gln Val Thr Gly Pro Leu Ser Asn Ile Trp Glu Arg
        275                 280                 285

Ser Val Pro Leu Val Leu Tyr Thr Ala Thr Phe Thr His Lys His Gly
    290                 295                 300

Ala Ala His Lys Arg Pro Leu Thr Leu Lys Val Ile Arg Ile Ser Ser
305                 310                 315                 320

Gly Ser Val Phe Leu Leu Pro Leu Ser Lys Val Thr Pro Gly Lys Leu
                325                 330                 335

Val Arg Ala Trp Met Pro Asp Ile Asn Ile Leu Arg Asp Gly Arg Pro
            340                 345                 350

Asp Glu Ala Ala Tyr Lys Gly Pro Asp Leu Ile Arg Ala Arg Glu Arg
```

```
        355                 360                 365

Ser Phe Pro Leu Ala Tyr Thr Cys Val Thr Gln Ile Ala Asp Glu Trp
    370                 375                 380

Gln Lys Arg Ala Leu Glu Ser Asn Arg Asp Ser Ile Thr Pro Leu Glu
385                 390                 395                 400

Ala Lys Leu Val Thr Gly Ser Asp Leu Leu Gln Ile His Ser Thr Val
                405                 410                 415

Gln Gln Ala Val Glu Gln Gly Ile Gly Gly Arg Ile Ser Ser Pro Ile
            420                 425                 430

Gln Glu Leu Leu Ala Lys Asp Ala Leu Gln Leu Val Leu Gln Gln Leu
        435                 440                 445

Phe Met Thr Val Asp Leu Leu Arg Ile Gln Trp Gln Leu Lys Gln Glu
    450                 455                 460

Val Ala Asp Gly Asn Thr Ser Glu Lys Ala Val Gly Trp Ala Ile Arg
465                 470                 475                 480

Ile Ser Asn Ile His Lys Asp Ala Tyr Lys Thr Ala Ile Glu Pro Cys
                485                 490                 495

Thr Ser Ala Leu Lys Gln Ala Trp Asn Pro Leu Ser Gly Phe Glu Glu
            500                 505                 510

Arg Thr Phe Gln Leu Asp Ala Ser Ile Val Arg Lys Arg Ser Thr Ala
        515                 520                 525

Lys Thr Pro Asp Asp Glu Leu Val Ile Val Leu Arg Gln Gln Ala Ala
    530                 535                 540

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

Leu Ala Val Arg His Ser Ala Thr Leu His Leu Leu Val Gly Glu Val
                565                 570                 575
```

Ala Ser Lys Gln Leu Ser Arg Ser Ala Asp Lys Asp Arg Gly Ala Met
580 585 590

Asp His Trp Lys Leu Leu Ser Gln Ser Met
595 600

<210> 200
<211> 494
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 200

Glu Asp Leu Leu Gln Lys Ala Leu Asn Thr Ala Thr Asn Val Ala Ala
1 5 10 15

Ile Glu Arg His Ser Cys Ile Ser Cys Leu Phe Thr Glu Ser Glu Ile
20 25 30

Asp Val Lys Tyr Lys Thr Pro Asp Lys Ile Gly Gln Asn Thr Ala Gly
35 40 45

Cys Gln Ser Cys Thr Phe Arg Val Gly Tyr Ser Gly Asn Ser His Thr
50 55 60

Leu Pro Met Gly Asn Arg Ile Ala Leu Asp Lys Leu Arg Glu Thr Ile
65 70 75 80

Gln Arg Tyr Ala Trp His Ser Leu Leu Phe Asn Val Pro Pro Ala Pro
85 90 95

Thr Ser Lys Arg Val Arg Ala Ile Ser Glu Leu Arg Val Ala Ala Gly
100 105 110

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

Ser Lys Leu Gln Lys Arg Tyr Ala Ala Asn Trp Thr Pro Lys Ser Gln
130 135 140

```
Glu Arg Leu Ser Arg Leu Arg Glu Glu Gly Gln His Ile Leu Ser Leu
145                 150                 155                 160

Leu Glu Ser Gly Ser Trp Gln Gln Lys Glu Val Val Arg Glu Asp Gln
                165                 170                 175

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

Ala Phe Cys Arg Pro Lys Tyr Leu Lys Pro Ala Lys His Ala Leu Val
        195                 200                 205

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

Ser Lys Arg Thr Arg Arg Met Arg Arg Arg Lys Asp Val Glu Arg Val
225                 230                 235                 240

Tyr Asp Ile Ser Val Gln Ala Trp Ala Leu Lys Gly Lys Glu Thr Arg
                245                 250                 255

Ile Ser Glu Cys Ile Asp Thr Met Arg Arg His Gln Gln Ala Tyr Ile
            260                 265                 270

Gly Val Leu Pro Phe Leu Ile Leu Ser Gly Ser Thr Val Arg Gly Lys
        275                 280                 285

Gly Asp Cys Pro Ile Leu Lys Glu Ile Thr Arg Met Arg Tyr Cys Pro
    290                 295                 300

Asn Asn Glu Gly Leu Ile Pro Leu Gly Ile Phe Tyr Arg Gly Ser Ala
305                 310                 315                 320

Asn Lys Leu Leu Arg Val Val Lys Gly Ser Ser Phe Thr Leu Pro Met
                325                 330                 335

Trp Gln Asn Ile Glu Thr Leu Pro His Pro Glu Pro Phe Ser Pro Glu
            340                 345                 350

Gly Trp Thr Ala Thr Gly Ala Leu Tyr Glu Lys Asn Leu Ala Tyr Trp
```

```
        355                 360                 365

Ser Ala Leu Asn Glu Ala Val Asp Trp Tyr Thr Gly Gln Ile Leu Ser
    370                 375                 380

Ser Gly Leu Gln Tyr Pro Asn Gln Asn Glu Phe Leu Ala Arg Leu Gln
385                 390                 395                 400

Asn Val Ile Asp Ser Ile Pro Arg Lys Trp Phe Arg Pro Gln Gly Leu
                405                 410                 415

Lys Asn Leu Lys Pro Asn Gly Gln Glu Asp Ile Val Pro Asn Glu Phe
            420                 425                 430

Val Ile Pro Gln Asn Ala Ile Arg Ala His His Val Ile Glu Trp Tyr
        435                 440                 445

His Lys Thr Asn Asp Leu Val Ala Lys Thr Leu Leu Gly Trp Gly Ser
    450                 455                 460

Gln Thr Thr Leu Asn Gln Thr Arg Pro Gln Gly Asp Leu Arg Phe Thr
465                 470                 475                 480

Tyr Thr Arg Tyr Tyr Phe Arg Glu Lys Glu Val Pro Glu Val
                485                 490


<210>  201
<211>  649
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic sequence

<400>  201

Val Pro Lys Lys Lys Leu Met Arg Glu Leu Ala Lys Lys Ala Val Phe
1               5                   10                  15

Glu Ala Ile Phe Asn Asp Pro Ile Pro Gly Ser Phe Gly Cys Lys Arg
            20                  25                  30

Cys Thr Leu Ile Asp Gly Ala Arg Val Thr Asp Ala Ile Glu Lys Lys
```

```
        35                  40                  45

Gln Gly Ala Lys Arg Cys Ala Gly Cys Glu Pro Cys Thr Phe His Thr
    50                  55                  60

Leu Tyr Asp Ser Val Lys His Ala Leu Pro Ala Ala Thr Gly Cys Asp
65                  70                  75                  80

Arg Thr Ala Ile Asp Thr Gly Leu Trp Glu Ile Leu Thr Ala Leu Arg
                85                  90                  95

Ser Tyr Asn Trp Met Ser Phe Arg Arg Asn Ala Val Ser Asp Ala Ser
            100                 105                 110

Gln Lys Gln Val Trp Ser Ile Glu Glu Leu Ala Ile Trp Ala Asp Lys
        115                 120                 125

Glu Arg Ala Leu Arg Val Ile Leu Ser Ala Leu Thr His Thr Ile Gly
    130                 135                 140

Lys Leu Lys Asn Gly Phe Ser Arg Asp Gly Val Trp Lys Gly Gly Lys
145                 150                 155                 160

Gln Leu Tyr Glu Asn Leu Ala Gln Lys Asp Leu Ala Lys Gly Leu Phe
                165                 170                 175

Ala Asn Gly Glu Ile Phe Gly Lys Glu Leu Val Glu Ala Asp His Asp
            180                 185                 190

Met Leu Ala Trp Thr Ile Val Pro Asn His Gln Phe His Ile Gly Leu
        195                 200                 205

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

Asp Ala Arg Trp Leu Thr Asn Gly Ala Pro Leu Arg Asp Thr Arg Thr
225                 230                 235                 240

His Gly His Arg Gly Arg Arg Phe Asn Arg Thr Glu Lys Leu Thr Val
                245                 250                 255
```

```
Leu Cys Ile Lys Arg Asp Gly Gly Val Ser Glu Glu Phe Arg Gln Glu
            260                 265                 270

Arg Asp Tyr Glu Leu Ser Val Met Leu Leu Gln Pro Lys Asn Lys Leu
        275                 280                 285

Lys Pro Glu Pro Lys Gly Glu Leu Asn Ser Phe Glu Asp Leu His Asp
    290                 295                 300

His Trp Trp Phe Leu Lys Gly Asp Glu Ala Thr Ala Leu Val Gly Leu
305                 310                 315                 320

Thr Ser Asp Pro Thr Val Gly Asp Phe Ile Gln Leu Gly Leu Tyr Ile
                325                 330                 335

Arg Asn Pro Ile Lys Ala His Gly Glu Thr Lys Arg Arg Leu Leu Ile
            340                 345                 350

Cys Phe Glu Pro Pro Ile Lys Leu Pro Leu Arg Arg Ala Phe Pro Ser
        355                 360                 365

Glu Ala Phe Lys Thr Trp Glu Pro Thr Ile Asn Val Phe Arg Asn Gly
    370                 375                 380

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

Glu Phe Pro Glu Thr Arg Val Ser Leu Glu His Leu Ser Lys Gln Trp
                405                 410                 415

Glu Val Leu Arg Leu Glu Pro Asp Arg Glu Asn Thr Asp Pro Tyr Glu
            420                 425                 430

Ala Gln Gln Asn Glu Gly Ala Glu Leu Gln Val Tyr Ser Leu Leu Gln
        435                 440                 445

Glu Ala Ala Gln Lys Met Ala Pro Lys Val Val Ile Asp Pro Phe Gly
    450                 455                 460

Gln Phe Pro Leu Glu Leu Phe Ser Thr Phe Val Ala Gln Leu Phe Asn
```

```
465                 470                 475                 480

Ala Pro Leu Ser Asp Thr Lys Ala Lys Ile Gly Lys Pro Leu Asp Ser
                485                 490                 495

Gly Phe Val Val Glu Ser His Leu His Leu Leu Glu Glu Asp Phe Ala
            500                 505                 510

Tyr Arg Asp Phe Val Arg Val Thr Phe Met Gly Thr Glu Pro Thr Phe
        515                 520                 525

Arg Val Ile His Tyr Ser Asn Gly Glu Gly Tyr Trp Lys Lys Thr Val
    530                 535                 540

Leu Lys Gly Lys Asn Asn Ile Arg Thr Ala Leu Ile Pro Glu Gly Ala
545                 550                 555                 560

Lys Ala Ala Val Asp Ala Tyr Lys Asn Lys Arg Cys Pro Leu Thr Leu
                565                 570                 575

Glu Ala Ala Ile Leu Asn Glu Glu Lys Asp Arg Arg Leu Val Leu Gly
            580                 585                 590

Asn Lys Ala Leu Ser Leu Leu Ala Gln Thr Ala Arg Gly Asn Leu Thr
        595                 600                 605

Ile Leu Glu Ala Leu Ala Ala Glu Val Leu Arg Pro Leu Ser Gly Thr
    610                 615                 620

Glu Gly Val Val His Leu His Ala Cys Val Thr Arg His Ser Thr Leu
625                 630                 635                 640

Thr Glu Ser Thr Glu Thr Asp Asn Met
                645
```

<210> 202
<211> 414
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 202

```
Val Glu Lys Leu Phe Ser Glu Arg Leu Lys Arg Ala Met Trp Leu Lys
1               5                  10                  15

Asn Glu Ala Gly Arg Ala Pro Pro Ala Glu Thr Leu Thr Leu Lys His
            20                  25                  30

Lys Arg Val Ser Gly Gly His Glu Lys Val Lys Glu Glu Leu Gln Arg
        35                  40                  45

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

Leu Ser Gly Gly Arg Glu Pro Lys Ser Ser Asp Ala Leu Lys Gly Glu
65                  70                  75                  80

Lys Ser Arg Val Val Leu Glu Thr Val Val Phe His Ser Gly His Asn
                85                  90                  95

Arg Val Leu Tyr Asp Val Ile Glu Arg Glu Asp Gln Val His Gln Arg
            100                 105                 110

Ser Ser Ile Met His Met Arg Arg Lys Gly Ser Asn Leu Leu Arg Leu
        115                 120                 125

Trp Gly Arg Ser Gly Lys Val Arg Arg Lys Met Arg Glu Glu Val Ala
    130                 135                 140

Glu Ile Lys Pro Val Trp His Lys Asp Ser Arg Trp Leu Ala Ile Val
145                 150                 155                 160

Glu Glu Gly Arg Gln Ser Val Val Gly Ile Ser Ser Ala Gly Leu Ala
                165                 170                 175

Val Phe Ala Val Gln Glu Ser Gln Cys Thr Thr Ala Glu Pro Lys Pro
            180                 185                 190

Leu Glu Tyr Val Val Ser Ile Trp Phe Arg Gly Ser Lys Ala Leu Asn
        195                 200                 205
```

```
Pro Gln Asp Arg Tyr Leu Glu Phe Lys Lys Leu Lys Thr Thr Glu Ala
    210                 215                 220

Leu Arg Gly Gln Gln Tyr Asp Pro Ile Pro Phe Ser Leu Lys Arg Gly
225                 230                 235                 240

Ala Gly Cys Ser Leu Ala Ile Arg Gly Glu Gly Ile Lys Phe Gly Ser
                245                 250                 255

Arg Gly Pro Ile Lys Gln Phe Phe Gly Ser Asp Arg Ser Arg Pro Ser
            260                 265                 270

His Ala Asp Tyr Asp Gly Lys Arg Arg Leu Ser Leu Phe Ser Lys Tyr
        275                 280                 285

Ala Gly Asp Leu Ala Asp Leu Thr Glu Glu Gln Trp Asn Arg Thr Val
    290                 295                 300

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

Gln Asp Phe Leu Ser Ile Ser His Glu Lys Tyr Ala Glu Arg Leu Lys
                325                 330                 335

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

Ala Tyr Leu Ser Ala Ile Phe Glu Thr Phe Val Gln Gln Arg Glu Ala
        355                 360                 365

Leu Ala Ser Asn Phe Leu Met Arg Leu Val Glu Ser Val Ala Leu Leu
    370                 375                 380

Ile Ser Leu Glu Glu Lys Ser Pro Arg Val Glu Phe Arg Val Ala Arg
385                 390                 395                 400

Tyr Leu Ala Glu Ser Lys Glu Gly Phe Asn Arg Lys Ala Met
                405                 410
```

<210> 203

<211> 413
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 203

```
Val Val Ile Thr Gln Ser Glu Leu Tyr Lys Glu Arg Leu Leu Arg Val
1               5                   10                  15


Met Glu Ile Lys Asn Asp Arg Gly Arg Lys Glu Pro Arg Glu Ser Gln
            20                  25                  30


Gly Leu Val Leu Arg Phe Thr Gln Val Thr Gly Gly Gln Glu Lys Val
        35                  40                  45


Lys Gln Lys Leu Trp Leu Ile Phe Glu Gly Phe Ser Gly Thr Asn Gln
    50                  55                  60


Ala Ser Trp Asn Phe Gly Gln Pro Ala Gly Gly Arg Lys Pro Asn Ser
65                  70                  75                  80


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


Val Phe His Phe Gly Leu Arg Leu Leu Ser Ala Val Ile Glu Arg His
            100                 105                 110


Asn Leu Lys Gln Gln Arg Gln Thr Met Ala Tyr Met Lys Arg Arg Ala
        115                 120                 125


Ala Ala Arg Lys Lys Trp Ala Arg Ser Gly Lys Lys Cys Ser Arg Met
    130                 135                 140


Arg Asn Glu Val Glu Lys Ile Lys Pro Lys Trp His Lys Asp Pro Arg
145                 150                 155                 160


Trp Phe Asp Ile Val Lys Glu Gly Glu Pro Ser Ile Val Gly Ile Ser
                165                 170                 175


Ser Ala Gly Phe Ala Ile Tyr Ile Val Glu Glu Pro Asn Phe Pro Arg
```

```
            180                 185                 190

Gln Asp Pro Leu Glu Ile Glu Tyr Ala Ile Ser Ile Trp Phe Arg Arg
        195                 200                 205

Asp Arg Ser Gln Tyr Leu Thr Phe Lys Lys Ile Gln Lys Ala Glu Lys
    210                 215                 220

Leu Lys Glu Leu Gln Tyr Asn Pro Ile Pro Phe Arg Leu Lys Gln Glu
225                 230                 235                 240

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

Gly Ser Ile Glu His Phe Arg Asp Glu Ala Arg Gly Lys Pro Pro Lys
            260                 265                 270

Ala Asp Met Asp Asn Asn Arg Arg Leu Thr Met Phe Ser Val Phe Ser
        275                 280                 285

Gly Asn Leu Thr Asn Leu Thr Glu Glu Gln Tyr Ala Arg Pro Val Ser
    290                 295                 300

Gly Leu Leu Ala Pro Asp Glu Lys Arg Met Pro Thr Leu Leu Lys Lys
305                 310                 315                 320

Leu Gln Asp Phe Phe Thr Pro Ile His Glu Lys Tyr Gly Glu Arg Ile
                325                 330                 335

Lys Gln Arg Leu Ala Asn Ser Glu Ala Ser Lys Arg Pro Phe Lys Lys
            340                 345                 350

Leu Glu Glu Tyr Leu Pro Ala Ile Tyr Leu Glu Phe Arg Ala Arg Arg
        355                 360                 365

Glu Gly Leu Ala Ser Asn Trp Val Leu Val Leu Ile Asn Ser Val Arg
    370                 375                 380

Thr Leu Val Arg Ile Lys Ser Glu Asp Pro Tyr Ile Glu Phe Lys Val
385                 390                 395                 400
```

Ser Gln Tyr Leu Leu Glu Lys Glu Asp Asn Lys Ala Leu
405 410

<210> 204
<211> 449
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 204

Lys Gln Asp Ala Leu Phe Glu Glu Arg Leu Lys Lys Ala Ile Phe Ile
1 5 10 15

Lys Arg Gln Ala Asp Pro Leu Gln Arg Glu Glu Leu Ser Leu Leu Pro
20 25 30

Pro Asn Arg Lys Ile Val Thr Gly Gly His Glu Ser Ala Lys Asp Thr
35 40 45

Leu Lys Gln Ile Leu Arg Ala Ile Asn Gly Thr Asn Gln Ala Ser Trp
50 55 60

Asn Pro Gly Thr Pro Ser Gly Lys Arg Asp Ser Lys Ser Ala Asp Ala
65 70 75 80

Leu Ala Gly Pro Lys Ser Arg Val Lys Leu Glu Thr Val Val Phe His
85 90 95

Val Gly His Arg Leu Leu Lys Lys Val Val Glu Tyr Gln Gly His Gln
100 105 110

Lys Gln Gln His Gly Leu Lys Ala Phe Met Arg Thr Cys Ala Ala Met
115 120 125

Arg Lys Lys Trp Lys Arg Ser Gly Lys Val Val Gly Glu Leu Arg Glu
130 135 140

Gln Leu Ala Asn Ile Gln Pro Lys Trp His Tyr Asp Ser Arg Pro Leu
145 150 155 160

```
Asn Leu Cys Phe Glu Gly Lys Pro Ser Val Val Gly Leu Arg Ser Ala
                165                 170                 175

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

Pro Lys Pro Ile Glu Tyr Ala Val Ser Ile Trp Phe Arg Gly Pro Lys
        195                 200                 205

Ala Met Asp Arg Glu Asp Arg Cys Leu Glu Phe Lys Lys Leu Lys Ile
    210                 215                 220

Ala Thr Glu Leu Arg Lys Leu Gln Phe Glu Pro Ile Val Ser Thr Leu
225                 230                 235                 240

Thr Gln Gly Ile Lys Gly Phe Ser Leu Tyr Ile Gln Gly Asn Ser Val
                245                 250                 255

Lys Phe Gly Ser Arg Gly Pro Ile Lys Tyr Phe Ser Asn Glu Ser Val
            260                 265                 270

Arg Gln Arg Pro Pro Lys Ala Asp Pro Asp Gly Asn Lys Arg Leu Ala
        275                 280                 285

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

Trp Asn Arg Pro Ile Leu Ala Phe Glu Gly Ile Ile Arg Arg Ala Thr
305                 310                 315                 320

Leu Gly Asn Ile Gln Asp Tyr Leu Thr Val Gly His Glu Gln Phe Ala
                325                 330                 335

Ile Ser Leu Glu Gln Leu Leu Ser Glu Lys Glu Ser Val Leu Gln Met
            340                 345                 350

Ser Ile Glu Gln Gln Arg Leu Lys Lys Asn Leu Gly Lys Lys Ala Glu
        355                 360                 365

Asn Glu Trp Val Glu Ser Phe Gly Ala Glu Gln Ala Arg Lys Lys Ala
```

```
    370                 375                 380

Gln Gly Ile Arg Glu Tyr Ile Ser Gly Phe Phe Gln Glu Tyr Cys Ser
385                 390                 395                 400

Gln Arg Glu Gln Trp Ala Glu Asn Trp Val Gln Gln Leu Asn Lys Ser
                405                 410                 415

Val Arg Leu Phe Leu Thr Ile Gln Asp Ser Thr Pro Phe Ile Glu Phe
            420                 425                 430

Arg Val Ala Arg Tyr Leu Pro Lys Gly Glu Lys Lys Lys Gly Lys Ala
        435                 440                 445

Met
```

<210> 205
<211> 711
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 205

```
Ala Asn His Ala Glu Arg His Lys Arg Leu Arg Lys Glu Ala Asn Arg
1               5                   10                  15

Ala Ala Asn Arg Asn Arg Pro Leu Val Ala Asp Cys Asp Thr Gly Asp
            20                  25                  30

Pro Leu Val Gly Ile Cys Arg Leu Leu Arg Arg Gly Asp Lys Met Gln
        35                  40                  45

Pro Asn Lys Thr Gly Cys Arg Ser Cys Glu Gln Val Glu Pro Glu Leu
    50                  55                  60

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

Tyr Glu Leu Phe Gln Arg Gly Arg Ala Met Ala Val His Arg Leu Leu
```

```
                85                  90                  95

Lys Arg Val Pro Lys Leu Asn Arg Pro Lys Lys Ala Ala Gly Asn Asp
            100                 105                 110

Glu Lys Lys Ala Glu Asn Lys Lys Ser Glu Ile Gln Lys Glu Lys Gln
        115                 120                 125

Lys Gln Arg Arg Met Met Pro Ala Val Ser Met Lys Gln Val Ser Val
    130                 135                 140

Ala Asp Phe Lys His Val Ile Glu Asn Thr Val Arg His Leu Phe Gly
145                 150                 155                 160

Asp Arg Arg Asp Arg Glu Ile Ala Glu Cys Ala Ala Leu Arg Ala Ala
                165                 170                 175

Ser Lys Tyr Phe Leu Lys Ser Arg Arg Val Arg Pro Arg Lys Leu Pro
            180                 185                 190

Lys Leu Ala Asn Pro Asp His Gly Lys Glu Leu Lys Gly Leu Arg Leu
        195                 200                 205

Arg Glu Lys Arg Ala Lys Leu Lys Lys Glu Lys Glu Lys Gln Ala Glu
    210                 215                 220

Leu Ala Arg Ser Asn Gln Lys Gly Ala Val Leu His Val Ala Thr Leu
225                 230                 235                 240

Lys Lys Asp Ala Pro Pro Met Pro Tyr Glu Lys Thr Gln Gly Arg Asn
                245                 250                 255

Asp Tyr Thr Thr Phe Val Ile Ser Ala Ala Ile Lys Val Gly Ala Thr
            260                 265                 270

Arg Gly Thr Lys Pro Leu Leu Thr Pro Gln Pro Arg Glu Trp Gln Cys
        275                 280                 285

Ser Leu Tyr Trp Arg Asp Gly Gln Arg Trp Ile Arg Gly Gly Leu Leu
    290                 295                 300
```

```
Gly Leu Gln Ala Gly Ile Val Leu Gly Pro Lys Leu Asn Arg Glu Leu
305                 310                 315                 320

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

Gly Asn Pro Leu Gln Val Arg Gly Ala Ala Val Asp Phe Phe Met Thr
            340                 345                 350

Thr Asn Pro Phe Tyr Val Ser Gly Ala Ala Tyr Ala Gln Lys Lys Phe
        355                 360                 365

Lys Pro Phe Gly Thr Lys Arg Ala Ser Glu Asp Gly Ala Ala Ala Lys
    370                 375                 380

Ala Arg Glu Lys Leu Met Thr Gln Leu Ala Lys Val Leu Asp Lys Val
385                 390                 395                 400

Val Thr Gln Ala Ala His Ser Pro Leu Asp Gly Ile Trp Glu Thr Arg
                405                 410                 415

Pro Glu Ala Lys Leu Arg Ala Met Ile Met Ala Leu Glu His Glu Trp
            420                 425                 430

Ile Phe Leu Arg Pro Gly Pro Cys His Asn Ala Ala Glu Glu Val Ile
        435                 440                 445

Lys Cys Asp Cys Thr Gly Gly His Ala Ile Leu Trp Ala Leu Ile Asp
    450                 455                 460

Glu Ala Arg Gly Ala Leu Glu His Lys Glu Phe Tyr Ala Val Thr Arg
465                 470                 475                 480

Ala His Thr His Asp Cys Glu Lys Gln Lys Leu Gly Gly Arg Leu Ala
                485                 490                 495

Gly Phe Leu Asp Leu Leu Ile Ala Gln Asp Val Pro Leu Asp Asp Ala
            500                 505                 510

Pro Ala Ala Arg Lys Ile Lys Thr Leu Leu Glu Ala Thr Pro Pro Ala
```

```
        515                 520                 525

Pro Cys Tyr Lys Ala Ala Thr Ser Ile Ala Thr Cys Asp Cys Glu Gly
    530                 535                 540

Lys Phe Asp Lys Leu Trp Ala Ile Ile Asp Ala Thr Arg Ala Gly His
545                 550                 555                 560

Gly Thr Glu Asp Leu Trp Ala Arg Thr Leu Ala Tyr Pro Gln Asn Val
                565                 570                 575

Asn Cys Lys Cys Lys Ala Gly Lys Asp Leu Thr His Arg Leu Ala Asp
            580                 585                 590

Phe Leu Gly Leu Leu Ile Lys Arg Asp Gly Pro Phe Arg Glu Arg Pro
        595                 600                 605

Pro His Lys Val Thr Gly Asp Arg Lys Leu Val Phe Ser Gly Asp Lys
    610                 615                 620

Lys Cys Lys Gly His Gln Tyr Val Ile Leu Ala Lys Ala His Asn Glu
625                 630                 635                 640

Glu Val Val Arg Ala Trp Ile Ser Arg Trp Gly Leu Lys Ser Arg Thr
                645                 650                 655

Asn Lys Ala Gly Tyr Ala Ala Thr Glu Leu Asn Leu Leu Leu Asn Trp
            660                 665                 670

Leu Ser Ile Cys Arg Arg Arg Trp Met Asp Met Leu Thr Val Gln Arg
        675                 680                 685

Asp Thr Pro Tyr Ile Arg Met Lys Thr Gly Arg Leu Val Val Asp Asp
    690                 695                 700

Lys Lys Glu Arg Lys Ala Met
705                 710


<210>  206
<211>  574
<212>  PRT
```

<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 206

```
Ala Lys Gln Arg Glu Ala Leu Arg Val Ala Leu Glu Arg Gly Ile Val
1               5                  10                  15


Arg Ala Ser Asn Arg Thr Tyr Thr Leu Val Thr Asn Cys Thr Lys Gly
            20                  25                  30


Gly Pro Leu Pro Glu Gln Cys Arg Met Ile Glu Arg Gly Lys Ala Arg
        35                  40                  45


Ala Met Lys Trp Glu Pro Lys Leu Val Gly Cys Gly Ser Cys Ala Ala
    50                  55                  60


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


Leu Asp Val Ala Lys Tyr Lys Leu Thr Thr Gln Ile Leu Ala Met Ala
                85                  90                  95


Thr Arg Arg Met Met Val Arg Ala Ala Lys Leu Ser Arg Arg Lys Gly
            100                 105                 110


Gln Trp Pro Ala Lys Val Gln Glu Glu Lys Glu Glu Pro Pro Glu Pro
        115                 120                 125


Lys Lys Met Leu Lys Ala Val Glu Met Arg Pro Val Ala Ile Val Asp
    130                 135                 140


Phe Asn Arg Val Ile Gln Thr Thr Ile Glu His Leu Trp Ala Glu Arg
145                 150                 155                 160


Ala Asn Ala Asp Glu Ala Glu Leu Lys Ala Leu Lys Ala Ala Ala Ala
                165                 170                 175


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

```
Ala Ile Gly Arg Glu Leu Lys Lys Ala His Arg Lys Lys Ala Tyr Ala
        195                 200                 205

Glu Arg Lys Lys Ala Arg Arg Lys Arg Ala Glu Leu Ala Arg Ser Gln
    210                 215                 220

Ala Arg Gly Ala Ala Ala His Ala Ala Ile Arg Glu Arg Asp Ile Pro
225                 230                 235                 240

Pro Met Ala Tyr Glu Arg Thr Gln Gly Arg Asn Asp Val Thr Thr Ile
                245                 250                 255

Pro Ile Ala Ala Ala Ile Lys Ile Ala Ala Thr Arg Gly Ala Arg Pro
            260                 265                 270

Leu Pro Ala Pro Lys Pro Met Lys Trp Gln Cys Ser Leu Tyr Trp Asn
        275                 280                 285

Glu Gly Gln Arg Trp Ile Arg Gly Gly Met Leu Thr Ala Gln Ala Tyr
    290                 295                 300

Ala His Ala Ala Asn Ile His Arg Pro Met Arg Cys Glu Met Trp Gly
305                 310                 315                 320

Val Gly Asn Pro Leu Lys Val Arg Ala Phe Glu Gly Arg Val Ala Asp
                325                 330                 335

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

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

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

Arg Leu Met Ala Gln Leu Ala Lys Ile Leu Asp Lys Val Val Ser Gln
385                 390                 395                 400

Ala Ala His Ser Pro Leu Asp Asp Ile Trp His Thr Arg Pro Ala Gln
```

405 410 415

Lys Leu Arg Ala Met Ile Lys Gln Leu Glu His Glu Trp Met Phe Leu
420 425 430

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

Ala Gly Asn Met Gln Arg Gln Ile Lys Ala Leu Met Ala Pro Asp Leu
450 455 460

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

Arg Lys Lys Gly Glu Arg Ala Val Arg Val Ala Glu Ala His Ser Asp
485 490 495

Glu Val Val Thr Ala Trp Ile Ser Arg Trp Gly Ile Gln Thr Arg Arg
500 505 510

Asn Glu Gly Ser Tyr Ala Ala Gln Glu Leu Glu Leu Leu Leu Asn Trp
515 520 525

Leu Gln Ile Cys Arg Arg Arg Trp Leu Asp Met Thr Ala Ala Gln Arg
530 535 540

Val Ser Pro Tyr Ile Arg Met Lys Ser Gly Arg Met Ile Thr Asp Ala
545 550 555 560

Ala Asp Glu Gly Val Ala Pro Ile Pro Leu Val Glu Asn Met
565 570

<210> 207
<211> 743
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 207

Lys Ser Ile Ser Gly Arg Ser Ile Lys His Met Ala Cys Leu Lys Asp

```
1               5                   10                  15

Met Leu Lys Ser Glu Ile Thr Glu Ile Glu Glu Lys Gln Lys Lys Glu
            20                  25                  30

Ser Leu Arg Lys Trp Asp Tyr Tyr Ser Lys Phe Ser Asp Glu Ile Leu
        35                  40                  45

Phe Arg Arg Asn Leu Asn Val Ser Ala Asn His Asp Ala Asn Ala Cys
    50                  55                  60

Tyr Gly Cys Asn Pro Cys Ala Phe Leu Lys Glu Val Tyr Gly Phe Arg
65                  70                  75                  80

Ile Glu Arg Arg Asn Asn Glu Arg Ile Ile Ser Tyr Arg Arg Gly Leu
                85                  90                  95

Ala Gly Cys Lys Ser Cys Val Gln Ser Thr Gly Tyr Pro Pro Ile Glu
            100                 105                 110

Phe Val Arg Arg Lys Phe Gly Ala Asp Lys Ala Met Glu Ile Val Arg
        115                 120                 125

Glu Val Leu His Arg Arg Asn Trp Gly Ala Leu Ala Arg Asn Ile Gly
    130                 135                 140

Arg Glu Lys Glu Ala Asp Pro Ile Leu Gly Glu Leu Asn Glu Leu Leu
145                 150                 155                 160

Leu Val Asp Ala Arg Pro Tyr Phe Gly Asn Lys Ser Ala Ala Asn Glu
                165                 170                 175

Thr Asn Leu Ala Phe Asn Val Ile Thr Arg Ala Ala Lys Lys Phe Arg
            180                 185                 190

Asp Glu Gly Met Tyr Asp Ile His Lys Gln Leu Asp Ile His Ser Glu
        195                 200                 205

Glu Gly Lys Val Pro Lys Gly Arg Lys Ser Arg Leu Ile Arg Ile Glu
    210                 215                 220
```

```
Arg Lys His Lys Ala Ile His Gly Leu Asp Pro Gly Glu Thr Trp Arg
225                 230                 235                 240

Tyr Pro His Cys Gly Lys Gly Glu Lys Tyr Gly Val Trp Leu Asn Arg
                245                 250                 255

Ser Arg Leu Ile His Ile Lys Gly Asn Glu Tyr Arg Cys Leu Thr Ala
            260                 265                 270

Phe Gly Thr Thr Gly Arg Arg Met Ser Leu Asp Val Ala Cys Ser Val
        275                 280                 285

Leu Gly His Pro Leu Val Lys Lys Lys Arg Lys Lys Gly Lys Lys Thr
    290                 295                 300

Val Asp Gly Thr Glu Leu Trp Gln Ile Lys Lys Ala Thr Glu Thr Leu
305                 310                 315                 320

Pro Glu Asp Pro Ile Asp Cys Thr Phe Tyr Leu Tyr Ala Ala Lys Pro
                325                 330                 335

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

Trp Lys Lys Leu His Lys Asp Phe Phe Glu Tyr Ser Asp Thr Glu Lys
        355                 360                 365

Thr Gln Gly Gln Glu Lys Gly Lys Arg Val Val Arg Arg Gly Lys Val
    370                 375                 380

Pro Arg Ile Leu Ser Leu Arg Pro Asp Ala Lys Phe Lys Val Ser Ile
385                 390                 395                 400

Trp Asp Asp Pro Tyr Asn Gly Lys Asn Lys Glu Gly Thr Leu Leu Arg
                405                 410                 415

Met Glu Leu Ser Gly Leu Asp Gly Ala Lys Lys Pro Leu Ile Leu Lys
            420                 425                 430

Arg Tyr Gly Glu Pro Asn Thr Lys Pro Lys Asn Phe Val Phe Trp Arg
```

```
        435                 440                 445

Pro His Ile Thr Pro His Pro Leu Thr Phe Thr Pro Lys His Asp Phe
    450                 455                 460

Gly Asp Pro Asn Lys Lys Thr Lys Arg Arg Arg Val Phe Asn Arg Glu
465                 470                 475                 480

Tyr Tyr Gly His Leu Asn Asp Leu Ala Lys Met Glu Pro Asn Ala Lys
                485                 490                 495

Phe Phe Glu Asp Arg Glu Val Ser Asn Lys Lys Asn Pro Lys Ala Lys
            500                 505                 510

Asn Ile Arg Ile Gln Ala Lys Glu Ser Leu Pro Asn Ile Val Ala Lys
        515                 520                 525

Asn Gly Arg Trp Ala Ala Phe Asp Pro Asn Asp Ser Leu Trp Lys Leu
    530                 535                 540

Tyr Leu His Trp Arg Gly Arg Arg Lys Thr Ile Lys Gly Gly Ile Ser
545                 550                 555                 560

Gln Glu Phe Gln Glu Phe Lys Glu Arg Leu Asp Leu Tyr Lys Lys His
                565                 570                 575

Glu Asp Glu Ser Glu Trp Lys Glu Lys Glu Lys Leu Trp Glu Asn His
            580                 585                 590

Glu Lys Glu Trp Lys Lys Thr Leu Glu Ile His Gly Ser Ile Ala Glu
        595                 600                 605

Val Ser Gln Arg Cys Val Met Gln Ser Met Met Gly Pro Leu Asp Gly
    610                 615                 620

Leu Val Gln Lys Lys Asp Tyr Val His Ile Gly Gln Ser Ser Leu Lys
625                 630                 635                 640

Ala Ala Asp Asp Ala Trp Thr Phe Ser Ala Asn Arg Tyr Lys Lys Ala
                645                 650                 655
```

```
Thr Gly Pro Lys Trp Gly Lys Ile Ser Val Ser Asn Leu Leu Tyr Asp
            660                 665                 670

Ala Asn Gln Ala Asn Ala Glu Leu Ile Ser Gln Ser Ile Ser Lys Tyr
        675                 680                 685

Leu Ser Lys Gln Lys Asp Asn Gln Gly Cys Glu Gly Arg Lys Met Lys
    690                 695                 700

Phe Leu Ile Lys Ile Ile Glu Pro Leu Arg Glu Asn Phe Val Lys His
705                 710                 715                 720

Thr Arg Trp Leu His Glu Met Thr Gln Lys Asp Cys Glu Val Arg Ala
                725                 730                 735

Gln Phe Ser Arg Val Ser Met
            740
```

<210> 208
<211> 769
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 208

```
Phe Pro Ser Asp Val Gly Ala Asp Ala Leu Lys His Val Arg Met Leu
1               5                   10                  15

Gln Pro Arg Leu Thr Asp Glu Val Arg Lys Val Ala Leu Thr Arg Ala
            20                  25                  30

Pro Ser Asp Arg Pro Ala Leu Ala Arg Phe Ala Ala Val Ala Gln Asp
        35                  40                  45

Gly Leu Ala Phe Val Arg His Leu Asn Val Ser Ala Asn His Asp Ser
    50                  55                  60

Asn Cys Thr Phe Pro Arg Asp Pro Arg Asp Pro Arg Arg Gly Pro Cys
65                  70                  75                  80
```

```
Glu Pro Asn Pro Cys Ala Phe Leu Arg Glu Val Trp Gly Phe Arg Ile
                85                  90                  95

Val Ala Arg Gly Asn Glu Arg Ala Leu Ser Tyr Arg Arg Gly Leu Ala
            100                 105                 110

Gly Cys Lys Ser Cys Val Gln Ser Thr Gly Phe Pro Ser Val Pro Phe
        115                 120                 125

His Arg Ile Gly Ala Asp Asp Cys Met Arg Lys Leu His Glu Ile Leu
    130                 135                 140

Lys Ala Arg Asn Trp Arg Leu Leu Ala Arg Asn Ile Gly Arg Glu Arg
145                 150                 155                 160

Glu Ala Asp Pro Leu Leu Thr Glu Leu Ser Glu Tyr Leu Leu Val Asp
                165                 170                 175

Ala Arg Thr Tyr Pro Asp Gly Ala Ala Pro Asn Ser Gly Arg Leu Ala
            180                 185                 190

Glu Asn Val Ile Lys Arg Ala Ala Lys Lys Phe Arg Asp Glu Gly Met
        195                 200                 205

Arg Asp Ile His Ala Gln Leu Arg Val His Ser Arg Glu Gly Lys Val
    210                 215                 220

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

Ala Ile His Ala Leu Asp Pro Gly Pro Ser Trp Glu Ala Glu Gly Ser
                245                 250                 255

Ala Arg Ala Glu Val Gln Gly Val Ala Val Tyr Arg Ser Gln Leu Leu
            260                 265                 270

Arg Val Gly His His Thr Gln Gln Ile Glu Pro Val Gly Ile Val Ala
        275                 280                 285

Arg Thr Leu Phe Gly Val Gly Arg Thr Asp Leu Asp Val Ala Val Ser
```

```
    290                 295                 300

Val Leu Gly Ala Pro Leu Thr Lys Arg Lys Lys Gly Ser Lys Thr Leu
305                 310                 315                 320

Glu Ser Thr Glu Asp Phe Arg Ile Ala Lys Ala Arg Glu Thr Arg Ala
                325                 330                 335

Glu Asp Lys Ile Glu Val Ala Phe Val Leu Tyr Pro Thr Ala Ser Leu
            340                 345                 350

Leu Arg Asp Glu Ile Pro Lys Asp Ala Phe Pro Ala Met Arg Ile Asp
        355                 360                 365

Arg Phe Leu Leu Lys Val Gly Ser Val Gln Ala Asp Arg Glu Ile Leu
    370                 375                 380

Leu Gln Asp Asp Tyr Tyr Arg Phe Gly Asp Ala Glu Val Lys Ala Gly
385                 390                 395                 400

Lys Asn Lys Gly Arg Thr Val Thr Arg Pro Val Lys Val Pro Arg Leu
                405                 410                 415

Gln Ala Leu Arg Pro Asp Ala Lys Phe Arg Val Asn Val Trp Ala Asp
            420                 425                 430

Pro Phe Gly Ala Gly Asp Ser Pro Gly Thr Leu Leu Arg Leu Glu Val
        435                 440                 445

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

Gln Pro Ser Thr Gln Pro Ala Asn Phe Leu Cys Trp Arg Pro His Arg
465                 470                 475                 480

Val Pro Asp Pro Met Thr Phe Thr Pro Arg Gln Lys Phe Gly Glu Arg
                485                 490                 495

Arg Lys Asn Arg Arg Thr Arg Arg Pro Arg Val Phe Glu Arg Leu Tyr
            500                 505                 510
```

```
Gln Val His Ile Lys His Leu Ala His Leu Glu Pro Asn Arg Lys Trp
        515                 520                 525

Phe Glu Glu Ala Arg Val Ser Ala Gln Lys Trp Ala Lys Ala Arg Ala
    530                 535                 540

Ile Arg Arg Lys Gly Ala Glu Asp Ile Pro Val Val Ala Pro Pro Ala
545                 550                 555                 560

Lys Arg Arg Trp Ala Ala Leu Gln Pro Asn Ala Glu Leu Trp Asp Leu
                565                 570                 575

Tyr Ala His Asp Arg Glu Ala Arg Lys Arg Phe Arg Gly Gly Arg Ala
            580                 585                 590

Ala Glu Gly Glu Glu Phe Lys Pro Arg Leu Asn Leu Tyr Leu Ala His
        595                 600                 605

Glu Pro Glu Ala Glu Trp Glu Ser Lys Arg Asp Arg Trp Glu Arg Tyr
    610                 615                 620

Glu Lys Lys Trp Thr Ala Val Leu Glu Glu His Ser Arg Met Cys Ala
625                 630                 635                 640

Val Ala Asp Arg Thr Leu Pro Gln Phe Leu Ser Asp Pro Leu Gly Ala
                645                 650                 655

Arg Met Asp Asp Lys Asp Tyr Ala Phe Val Gly Lys Ser Ala Leu Ala
            660                 665                 670

Val Ala Glu Ala Phe Val Glu Glu Gly Thr Val Glu Arg Ala Gln Gly
        675                 680                 685

Asn Cys Ser Ile Thr Ala Lys Lys Lys Phe Ala Ser Asn Ala Ser Arg
    690                 695                 700

Lys Arg Leu Ser Val Ala Asn Leu Leu Asp Val Ser Asp Lys Ala Asp
705                 710                 715                 720

Arg Ala Leu Val Phe Gln Ala Val Arg Gln Tyr Val Gln Arg Gln Ala
```

```
                725                 730                 735

Glu Asn Gly Gly Val Glu Gly Arg Arg Met Ala Phe Leu Arg Lys Leu
            740                 745                 750

Leu Ala Pro Leu Arg Gln Asn Phe Val Cys His Thr Arg Trp Leu His
        755                 760                 765

Met
```

<210> 209
<211> 564
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 209

```
Ala Ala Arg Lys Lys Lys Arg Gly Lys Ile Gly Ile Thr Val Lys Ala
1               5                   10                  15

Lys Glu Lys Ser Pro Pro Ala Ala Gly Pro Phe Met Ala Arg Lys Leu
            20                  25                  30

Val Asn Val Ala Ala Asn Val Asp Gly Val Glu Val His Leu Cys Val
        35                  40                  45

Glu Cys Glu Ala Asp Ala His Gly Ser Ala Ser Ala Arg Leu Leu Gly
    50                  55                  60

Gly Cys Arg Ser Cys Thr Gly Ser Ile Gly Ala Glu Gly Arg Leu Met
65                  70                  75                  80

Gly Ser Val Asp Val Asp Arg Glu Arg Val Ile Ala Glu Pro Val His
                85                  90                  95

Thr Glu Thr Glu Arg Leu Gly Pro Asp Val Lys Ala Phe Glu Ala Gly
            100                 105                 110

Thr Ala Glu Ser Lys Tyr Ala Ile Gln Arg Gly Leu Glu Tyr Trp Gly
```

```
        115                 120                 125

Val Asp Leu Ile Ser Arg Asn Arg Ala Arg Thr Val Arg Lys Met Glu
    130                 135                 140

Glu Ala Asp Arg Pro Glu Ser Ser Thr Met Glu Lys Thr Ser Trp Asp
145                 150                 155                 160

Glu Ile Ala Ile Lys Thr Tyr Ser Gln Ala Tyr His Ala Ser Glu Asn
                165                 170                 175

His Leu Phe Trp Glu Arg Gln Arg Arg Val Arg Gln His Ala Leu Ala
            180                 185                 190

Leu Phe Arg Arg Ala Arg Glu Arg Asn Arg Gly Glu Ser Pro Leu Gln
        195                 200                 205

Ser Thr Gln Arg Pro Ala Pro Leu Val Leu Ala Ala Leu His Ala Glu
    210                 215                 220

Ala Ala Ala Ile Ser Gly Arg Ala Arg Ala Glu Tyr Val Leu Arg Gly
225                 230                 235                 240

Pro Ser Ala Asn Val Arg Ala Ala Ala Ala Asp Ile Asp Ala Lys Pro
                245                 250                 255

Leu Gly His Tyr Lys Thr Pro Ser Pro Lys Val Ala Arg Gly Phe Pro
            260                 265                 270

Val Lys Arg Asp Leu Leu Arg Ala Arg His Arg Ile Val Gly Leu Ser
        275                 280                 285

Arg Ala Tyr Phe Lys Pro Ser Asp Val Val Arg Gly Thr Ser Asp Ala
    290                 295                 300

Ile Ala His Val Ala Gly Arg Asn Ile Gly Val Ala Gly Gly Lys Pro
305                 310                 315                 320

Lys Glu Ile Glu Lys Thr Phe Thr Leu Pro Phe Val Ala Tyr Trp Glu
                325                 330                 335
```

```
Asp Val Asp Arg Val Val His Cys Ser Ser Phe Lys Ala Asp Gly Pro
            340                 345                 350

Trp Val Arg Asp Gln Arg Ile Lys Ile Arg Gly Val Ser Ser Ala Val
        355                 360                 365

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

Ser Phe Tyr Ile Arg Cys Ser Asp Ile Arg Lys Lys Phe His Pro Lys
385                 390                 395                 400

Gly Phe Gly Pro Met Lys His Trp Arg Gln Trp Ala Lys Glu Leu Asp
                405                 410                 415

Arg Leu Thr Glu Gln Arg Ala Ser Cys Val Val Arg Ala Leu Gln Asp
            420                 425                 430

Asp Glu Glu Leu Leu Gln Thr Met Glu Arg Gly Gln Arg Tyr Tyr Asp
        435                 440                 445

Val Phe Ser Cys Ala Ala Thr His Ala Thr Arg Gly Glu Ala Asp Pro
    450                 455                 460

Ser Gly Gly Cys Ser Arg Cys Glu Leu Val Ser Cys Gly Val Ala His
465                 470                 475                 480

Lys Val Thr Lys Lys Ala Lys Gly Asp Thr Gly Ile Glu Ala Val Ala
                485                 490                 495

Val Ala Gly Cys Ser Leu Cys Glu Ser Lys Leu Val Gly Pro Ser Lys
            500                 505                 510

Pro Arg Val His Arg Gln Met Ala Ala Leu Arg Gln Ser His Ala Leu
        515                 520                 525

Asn Tyr Leu Arg Arg Leu Gln Arg Glu Trp Glu Ala Leu Glu Ala Val
    530                 535                 540

Gln Ala Pro Thr Pro Tyr Leu Arg Phe Lys Tyr Ala Arg His Leu Glu
```

545 550 555 560

Val Arg Ser Met

<210> 210
<211> 565
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 210

Ala Ala Lys Lys Lys Lys Gln Arg Gly Lys Ile Gly Ile Ser Val Lys
1 5 10 15

Pro Lys Glu Gly Ser Ala Pro Pro Ala Asp Gly Pro Phe Met Ala Arg
20 25 30

Lys Leu Val Asn Val Ala Ala Asn Val Asp Gly Val Glu Val Asn Leu
35 40 45

Cys Ile Glu Cys Glu Ala Asp Ala His Gly Ser Ala Pro Ala Arg Leu
50 55 60

Leu Gly Gly Cys Lys Ser Cys Thr Gly Ser Ile Gly Ala Glu Gly Arg
65 70 75 80

Leu Met Gly Ser Val Asp Val Asp Arg Ala Asp Ala Ile Ala Lys Pro
85 90 95

Val Asn Thr Glu Thr Glu Lys Leu Gly Pro Asp Val Gln Ala Phe Glu
100 105 110

Ala Gly Thr Ala Glu Thr Lys Tyr Ala Leu Gln Arg Gly Leu Glu Tyr
115 120 125

Trp Gly Val Asp Leu Ile Ser Arg Asn Arg Ser Arg Thr Val Arg Arg
130 135 140

Thr Glu Glu Gly Gln Pro Glu Ser Ala Thr Met Glu Lys Thr Ser Trp

```
145                 150                 155                 160

Asp Glu Ile Ala Ile Lys Ser Tyr Thr Arg Ala Tyr His Ala Ser Glu
                165                 170                 175

Asn His Leu Phe Trp Glu Arg Gln Arg Arg Val Arg Gln His Ala Leu
            180                 185                 190

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

Pro Arg Glu Pro Gly His Gly Leu Val Ala Ile Ala Ala Leu Ala Cys
    210                 215                 220

Glu Ala Tyr Ala Val Gly Gly Arg Asn Leu Ala Glu Thr Val Val Arg
225                 230                 235                 240

Gly Pro Thr Phe Gly Thr Ala Arg Ala Val Arg Asp Val Glu Ile Ala
                245                 250                 255

Ser Leu Gly Arg Tyr Lys Thr Pro Ser Pro Lys Val Ala His Gly Ser
            260                 265                 270

Pro Val Lys Arg Asp Phe Leu Arg Ala Arg His Arg Ile Val Gly Leu
        275                 280                 285

Ala Arg Ala Tyr Tyr Arg Pro Ser Asp Val Val Arg Gly Thr Ser Asp
    290                 295                 300

Ala Ile Ala His Val Ala Gly Arg Asn Ile Gly Val Ala Gly Gly Lys
305                 310                 315                 320

Pro Arg Ala Val Glu Ala Val Phe Thr Leu Pro Phe Val Ala Tyr Trp
                325                 330                 335

Glu Asp Val Asp Arg Val Val His Cys Ser Ser Phe Gln Val Ser Ala
            340                 345                 350

Pro Trp Asn Arg Asp Gln Arg Met Lys Ile Ala Gly Val Thr Thr Ala
        355                 360                 365
```

```
Ala Gly Thr Phe Ser Leu His Gly Gly Glu Leu Lys Trp Ala Lys Pro
    370                 375                 380

Thr Ser Phe Tyr Ile Arg Cys Ser Asp Thr Arg Arg Lys Phe Arg Pro
385                 390                 395                 400

Lys Gly Phe Gly Pro Met Lys Arg Trp Arg Gln Trp Ala Lys Asp Leu
                405                 410                 415

Asp Arg Leu Val Glu Gln Arg Ala Ser Cys Val Val Arg Ala Leu Gln
            420                 425                 430

Asp Asp Ala Ala Leu Leu Glu Thr Met Glu Arg Gly Gln Arg Tyr Tyr
        435                 440                 445

Asp Val Phe Ala Cys Ala Val Thr His Ala Thr Arg Gly Glu Ala Asp
    450                 455                 460

Arg Leu Ala Gly Cys Ser Arg Cys Ala Leu Thr Pro Cys Gln Glu Ala
465                 470                 475                 480

His Arg Val Thr Thr Lys Pro Arg Gly Asp Ala Gly Val Glu Gln Val
                485                 490                 495

Gln Thr Ser Asp Cys Ser Leu Cys Glu Gly Lys Leu Val Gly Pro Ser
            500                 505                 510

Lys Pro Arg Leu His Arg Thr Leu Thr Leu Leu Arg Gln Glu His Gly
        515                 520                 525

Leu Asn Tyr Leu Arg Arg Leu Gln Arg Glu Trp Glu Ser Leu Glu Ala
    530                 535                 540

Val Gln Val Pro Thr Pro Tyr Leu Arg Phe Lys Tyr Ala Arg His Leu
545                 550                 555                 560

Glu Val Arg Ser Met
                565
```

<210> 211

<211> 499
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 211

Thr Asp Ser Gln Ser Glu Ser Val Pro Glu Val Val Tyr Ala Leu Thr
1 5 10 15

Gly Gly Glu Val Pro Gly Arg Val Pro Pro Asp Gly Gly Ser Ala Glu
20 25 30

Gly Ala Arg Asn Ala Pro Thr Gly Leu Arg Lys Gln Arg Gly Lys Ile
35 40 45

Lys Ile Ser Ala Lys Pro Ser Lys Pro Gly Ser Pro Ala Ser Ser Leu
50 55 60

Ala Arg Thr Leu Val Asn Glu Ala Ala Asn Val Asp Gly Val Gln Ser
65 70 75 80

Ser Gly Cys Ala Thr Cys Arg Met Arg Ala Asn Gly Ser Ala Pro Arg
85 90 95

Ala Leu Pro Ile Gly Cys Val Ala Cys Ala Ser Ser Ile Gly Arg Ala
100 105 110

Pro Gln Glu Glu Thr Val Cys Ala Leu Pro Thr Thr Gln Gly Pro Asp
115 120 125

Val Arg Leu Leu Glu Gly Gly His Ala Leu Arg Lys Tyr Asp Ile Gln
130 135 140

Arg Ala Leu Glu Tyr Trp Gly Val Asp Leu Ile Gly Arg Asn Leu Asp
145 150 155 160

Arg Gln Ala Gly Arg Gly Met Glu Pro Ala Glu Gly Ala Thr Ala Thr
165 170 175

Met Lys Arg Val Ser Met Asp Glu Leu Ala Val Leu Asp Phe Gly Lys

```
            180                 185                 190

Ser Tyr Tyr Ala Ser Glu Gln His Leu Phe Ala Ala Arg Gln Arg Arg
        195                 200                 205

Val Arg Gln His Ala Lys Ala Leu Lys Ile Arg Ala Lys His Ala Asn
    210                 215                 220

Arg Ser Gly Ser Val Lys Arg Ala Leu Asp Arg Ser Arg Lys Gln Val
225                 230                 235                 240

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

Asp Ser Asp Ala Leu Ala His Val Val Gly Arg Asn Leu Gly Val Ser
            260                 265                 270

Arg His Pro Ala Arg Glu Ile Pro Gln Thr Phe Thr Leu Pro Leu Cys
        275                 280                 285

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

Ala Gly Glu Pro Phe Ala Arg Asp Gln Glu Ile Arg Ile Glu Gly Val
305                 310                 315                 320

Ser Ser Ala Leu Gly Ser Leu Arg Leu Tyr Arg Gly Ala Ile Glu Trp
                325                 330                 335

His Lys Pro Thr Ser Leu Tyr Ile Arg Cys Ser Asp Thr Arg Arg Lys
            340                 345                 350

Phe Arg Pro Arg Gly Gly Leu Lys Lys Arg Trp Arg Gln Trp Ala Lys
        355                 360                 365

Asp Leu Asp Arg Leu Val Glu Gln Arg Ala Cys Cys Ile Val Arg Ser
    370                 375                 380

Leu Gln Ala Asp Val Glu Leu Leu Gln Thr Met Glu Arg Ala Gln Arg
385                 390                 395                 400
```

```
Phe Tyr Asp Val His Asp Cys Ala Ala Thr His Val Gly Pro Val Ala
                405                 410                 415

Val Arg Cys Ser Pro Cys Ala Gly Lys Gln Phe Asp Trp Asp Arg Tyr
            420                 425                 430

Arg Leu Leu Ala Ala Leu Arg Gln Glu His Ala Leu Asn Tyr Leu Arg
        435                 440                 445

Arg Leu Gln Arg Glu Trp Glu Ser Leu Glu Ala Gln Gln Val Lys Met
    450                 455                 460

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

Leu Ile Gly Leu Glu Val Arg Arg Glu Pro Ser Met Gly Thr Ala Ile
                485                 490                 495

Ala Glu Met
```

<210> 212
<211> 358
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 212

```
Ala Gly Thr Ala Gly Arg Arg His Gly Ser Leu Gly Ala Arg Arg Ser
1               5                   10                  15

Ile Asn Ile Ala Gly Val Thr Asp Arg His Gly Arg Trp Gly Cys Glu
            20                  25                  30

Ser Cys Val Tyr Thr Arg Asp Gln Ala Gly Asn Arg Ala Arg Cys Ala
        35                  40                  45

Pro Cys Asp Gln Ser Thr Tyr Ala Pro Asp Val Gln Glu Val Thr Ile
    50                  55                  60
```

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

Ser Trp Thr Asn Thr Met Arg Asn Asn Lys Arg Ala Ala Ala Gly Arg
                85                  90                  95

Ser Lys Arg Thr Thr Gly Lys Arg Ile Gly Gln Leu Ala Glu Ile Lys
            100                 105                 110

Ile Thr Gly Val Gly Leu Ala His Ala His Asn Val Ile Gln Arg Ser
        115                 120                 125

Leu Gln His Asn Ile Thr Lys Met Trp Arg Ala Glu Lys Gly Lys Ser
    130                 135                 140

Lys Arg Val Ala Arg Leu Lys Lys Ala Lys Gln Leu Thr Lys Arg Arg
145                 150                 155                 160

Ala Tyr Phe Arg Arg Arg Met Ser Arg Gln Ser Arg Gly Asn Gly Phe
                165                 170                 175

Phe Arg Thr Gly Lys Gly Gly Ile His Ala Val Ala Pro Val Lys Ile
            180                 185                 190

Gly Leu Asp Val Gly Met Ile Ala Ser Gly Ser Ser Glu Pro Ala Asp
        195                 200                 205

Glu Gln Thr Val Thr Leu Asp Ala Ile Trp Lys Gly Arg Lys Lys Lys
    210                 215                 220

Ile Arg Leu Ile Gly Ala Lys Gly Glu Leu Ala Val Ala Ala Cys Arg
225                 230                 235                 240

Phe Arg Glu Gln Gln Thr Lys Gly Asp Lys Cys Ile Pro Leu Ile Leu
                245                 250                 255

Gln Asp Gly Glu Val Arg Trp Asn Gln Asn Asn Trp Gln Cys His Pro
            260                 265                 270

Lys Lys Leu Val Pro Leu Cys Gly Leu Glu Val Ser Arg Lys Phe Val
```

275 280 285

Ser Gln Ala Asp Arg Leu Ala Gln Asn Lys Val Ala Ser Pro Leu Ala
290 295 300

Ala Arg Phe Asp Lys Thr Ser Val Lys Gly Thr Leu Val Glu Ser Asp
305 310 315 320

Phe Ala Ala Val Leu Val Asn Val Thr Ser Ile Tyr Gln Gln Cys His
325 330 335

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

Arg Thr Ile Thr Ser Met
355

<210> 213
<211> 369
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 213

Gly Val Arg Phe Ser Pro Ala Gln Ser Gln Val Phe Phe Arg Thr Val
1 5 10 15

Ile Pro Gln Ser Val Glu Ala Arg Phe Ala Ile Asn Met Ala Ala Ile
20 25 30

His Asp Ala Ala Gly Ala Phe Gly Cys Ser Val Cys Arg Phe Glu Asp
35 40 45

Arg Thr Pro Arg Asn Ala Lys Ala Val His Gly Cys Ser Pro Cys Thr
50 55 60

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

Lys Ala Lys Tyr Asp Val Phe Met Arg Leu Leu Gly Phe Asn Trp Thr

```
                85                  90                  95

His Leu Asn Arg Arg Gln Ala Lys Arg Val Thr Val Arg Asp Arg Ile
            100                 105                 110

Gly Gln Leu Asp Glu Leu Ala Ile Ser Met Leu Thr Gly Lys Ala Lys
        115                 120                 125

Ala Val Leu Lys Lys Ser Ile Cys His Asn Val Asp Lys Ser Phe Lys
    130                 135                 140

Ala Met Arg Gly Ser Leu Lys Lys Leu His Arg Lys Ala Ser Lys Thr
145                 150                 155                 160

Gly Lys Ser Gln Leu Arg Ala Lys Leu Ser Asp Leu Arg Glu Arg Thr
                165                 170                 175

Asn Thr Thr Gln Glu Gly Ser His Val Glu Gly Asp Ser Asp Val Ala
            180                 185                 190

Leu Asn Lys Ile Gly Leu Asp Val Gly Leu Val Gly Lys Pro Asp Tyr
        195                 200                 205

Pro Ser Glu Glu Ser Val Glu Val Val Val Cys Leu Tyr Phe Val Gly
    210                 215                 220

Lys Val Leu Ile Leu Asp Ala Gln Gly Arg Ile Arg Asp Met Arg Ala
225                 230                 235                 240

Lys Gln Tyr Asp Gly Phe Lys Ile Pro Ile Ile Gln Arg Gly Gln Leu
                245                 250                 255

Thr Val Leu Ser Val Lys Asp Leu Gly Lys Trp Ser Leu Val Arg Gln
            260                 265                 270

Asp Tyr Val Leu Ala Gly Asp Leu Arg Phe Glu Pro Lys Ile Ser Lys
        275                 280                 285

Asp Arg Lys Tyr Ala Glu Cys Val Lys Arg Ile Ala Leu Ile Thr Leu
    290                 295                 300
```

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


Gln Val Glu Ile Lys Asn Ala Ser His Ile Ala Phe Val Thr Glu Ala
                325                 330                 335


Ile Gln Asn Cys Ala Glu Asn Phe Arg Glu Met Thr Glu Tyr Leu Met
            340                 345                 350


Lys Tyr Gln Glu Lys Ser Pro Asp Leu Lys Val Leu Leu Thr Gln Leu
        355                 360                 365


Met
```

<210> 214
<211> 486
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 214

```
Arg Ala Val Val Gly Lys Val Phe Leu Glu Gln Ala Arg Arg Ala Leu
1               5                   10                  15


Asn Leu Ala Thr Asn Phe Gly Thr Asn His Arg Thr Gly Cys Asn Gly
            20                  25                  30


Cys Tyr Val Thr Pro Gly Lys Leu Ser Ile Pro Gln Asp Gly Glu Lys
        35                  40                  45


Asn Ala Ala Gly Cys Thr Ser Cys Leu Met Lys Ala Thr Ala Ser Tyr
    50                  55                  60


Val Ser Tyr Pro Lys Pro Leu Gly Glu Lys Val Ala Lys Tyr Ser Thr
65                  70                  75                  80


Leu Asp Ala Leu Lys Gly Phe Pro Trp Tyr Ser Leu Arg Leu Asn Leu
                85                  90                  95
```

```
Arg Pro Asn Tyr Arg Gly Lys Pro Ile Asn Gly Val Gln Glu Val Ala
            100                 105                 110

Pro Val Ser Lys Phe Arg Leu Ala Glu Glu Val Ile Gln Ala Val Gln
        115                 120                 125

Arg Tyr His Phe Thr Glu Leu Glu Gln Ser Phe Pro Gly Gly Arg Arg
    130                 135                 140

Arg Leu Arg Glu Leu Arg Ala Phe Tyr Thr Lys Glu Tyr Arg Arg Ala
145                 150                 155                 160

Pro Glu Gln Arg Gln His Val Val Asn Gly Asp Arg Asn Ile Val Val
                165                 170                 175

Val Thr Val Leu His Glu Leu Gly Phe Ser Val Gly Met Phe Asn Glu
            180                 185                 190

Val Glu Leu Leu Pro Lys Thr Pro Ile Glu Cys Ala Val Asn Val Phe
        195                 200                 205

Ile Arg Gly Asn Arg Val Leu Leu Glu Val Arg Lys Pro Gln Phe Asp
    210                 215                 220

Lys Glu Arg Leu Leu Val Glu Ser Leu Trp Lys Lys Asp Ser Arg Arg
225                 230                 235                 240

His Thr Ala Lys Trp Thr Pro Pro Asn Asn Glu Gly Arg Ile Phe Thr
                245                 250                 255

Ala Glu Gly Trp Lys Asp Phe Gln Leu Pro Leu Leu Leu Gly Ser Thr
            260                 265                 270

Ser Arg Ser Leu Arg Ala Ile Glu Lys Glu Gly Phe Val Gln Leu Ala
        275                 280                 285

Pro Gly Arg Asp Pro Asp Tyr Asn Asn Thr Ile Asp Glu Gln His Ser
    290                 295                 300

Gly Arg Pro Phe Leu Pro Leu Tyr Leu Tyr Leu Gln Gly Thr Ile Ser
```

305 310 315 320

Gln Glu Tyr Cys Val Phe Ala Gly Thr Trp Val Ile Pro Phe Gln Asp
325 330 335

Gly Ile Ser Pro Tyr Ser Thr Lys Asp Thr Phe Gln Pro Asp Leu Lys
340 345 350

Arg Lys Ala Tyr Ser Leu Leu Leu Asp Ala Val Lys His Arg Leu Gly
355 360 365

Asn Lys Val Ala Ser Gly Leu Gln Tyr Gly Arg Phe Pro Ala Ile Glu
370 375 380

Glu Leu Lys Arg Leu Val Arg Met His Gly Ala Thr Arg Lys Ile Pro
385 390 395 400

Arg Gly Glu Lys Asp Leu Leu Lys Lys Gly Asp Pro Asp Thr Pro Glu
405 410 415

Trp Trp Leu Leu Glu Gln Tyr Pro Glu Phe Trp Arg Leu Cys Asp Ala
420 425 430

Ala Ala Lys Arg Val Ser Gln Asn Val Gly Leu Leu Leu Ser Leu Lys
435 440 445

Lys Gln Pro Leu Trp Gln Arg Arg Trp Leu Glu Ser Arg Thr Arg Asn
450 455 460

Glu Pro Leu Asp Asn Leu Pro Leu Ser Met Ala Leu Thr Leu His Leu
465 470 475 480

Thr Asn Glu Glu Ala Leu
485

<210> 215
<211> 400
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 215

```
Ala Ala Val Tyr Ser Lys Phe Tyr Ile Glu Asn His Phe Lys Met Gly
1               5                   10                  15

Ile Pro Glu Thr Leu Ser Arg Ile Arg Gly Pro Ser Ile Ile Gln Gly
            20                  25                  30

Phe Ser Val Asn Glu Asn Tyr Ile Asn Ile Ala Gly Val Gly Asp Arg
        35                  40                  45

Asp Phe Ile Phe Gly Cys Lys Lys Cys Lys Tyr Thr Arg Gly Lys Pro
    50                  55                  60

Ser Ser Lys Lys Ile Asn Lys Cys His Pro Cys Lys Arg Ser Thr Tyr
65                  70                  75                  80

Pro Glu Pro Val Ile Asp Val Arg Gly Ser Ile Ser Glu Phe Lys Tyr
                85                  90                  95

Lys Ile Tyr Asn Lys Leu Lys Gln Glu Pro Asn Gln Ser Ile Lys Gln
            100                 105                 110

Asn Thr Lys Gly Arg Met Asn Pro Ser Asp His Thr Ser Ser Asn Asp
        115                 120                 125

Gly Ile Ile Ile Asn Gly Ile Asp Asn Arg Ile Ala Tyr Asn Val Ile
    130                 135                 140

Phe Ser Ser Tyr Lys His Leu Met Glu Lys Gln Ile Asn Leu Leu Arg
145                 150                 155                 160

Asp Thr Thr Lys Arg Lys Ala Arg Gln Ile Lys Lys Tyr Asn Asn Ser
                165                 170                 175

Gly Lys Lys Lys His Ser Leu Arg Ser Gln Thr Lys Gly Asn Leu Lys
            180                 185                 190

Asn Arg Tyr His Met Leu Gly Met Phe Lys Lys Gly Ser Leu Thr Ile
        195                 200                 205
```

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

Ile Ser Leu Tyr Lys Asn Glu Ser Leu Asn Lys Gln Glu Val Glu Thr
225                 230                 235                 240

Glu Leu Cys Leu Asn Ile Lys Trp Gly Arg Thr Lys Ser Tyr Thr Val
                245                 250                 255

Ser Gly Tyr Ile Pro Leu Pro Ile Asn Ile Asp Trp Lys Leu Tyr Leu
            260                 265                 270

Phe Glu Lys Glu Thr Gly Leu Thr Leu Arg Leu Phe Gly Asn Lys Tyr
        275                 280                 285

Lys Ile Gln Ser Lys Lys Phe Leu Ile Ala Gln Leu Phe Lys Pro Lys
    290                 295                 300

Arg Pro Pro Cys Ala Asp Pro Val Val Lys Lys Ala Gln Lys Trp Ser
305                 310                 315                 320

Ala Leu Asn Ala His Val Gln Gln Met Ala Gly Leu Phe Ser Asp Ser
                325                 330                 335

His Leu Leu Lys Arg Glu Leu Lys Asn Arg Met His Lys Gln Leu Asp
            340                 345                 350

Phe Lys Ser Leu Trp Val Gly Thr Glu Asp Tyr Ile Lys Trp Phe Glu
        355                 360                 365

Glu Leu Ser Arg Ser Tyr Val Glu Gly Ala Glu Lys Ser Leu Glu Phe
    370                 375                 380

Phe Arg Gln Asp Tyr Phe Cys Phe Asn Tyr Thr Lys Gln Thr Thr Met
385                 390                 395                 400
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<210> 216
<211> 666
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 216

```
Pro Gln Gln Gln Arg Asp Leu Met Leu Met Ala Ala Asn Tyr Asp Gln
1               5                   10                  15


Asp Tyr Gly Asn Gly Cys Gly Pro Cys Thr Val Val Ala Ser Ala Ala
            20                  25                  30


Tyr Arg Pro Asp Pro Gln Ala Gln His Gly Cys Lys Arg His Leu Arg
        35                  40                  45


Thr Leu Gly Ala Ser Ala Val Thr His Val Gly Leu Gly Asp Arg Thr
    50                  55                  60


Ala Thr Ile Thr Ala Leu His Arg Leu Arg Gly Pro Ala Ala Leu Ala
65                  70                  75                  80


Ala Arg Ala Arg Ala Ala Gln Ala Ala Ser Ala Pro Met Thr Pro Asp
                85                  90                  95


Thr Asp Ala Pro Asp Asp Arg Arg Arg Leu Glu Ala Ile Asp Ala Asp
            100                 105                 110


Asp Val Val Leu Val Gly Ala His Arg Ala Leu Trp Ser Ala Val Arg
        115                 120                 125


Arg Trp Ala Asp Asp Arg Arg Ala Ala Leu Arg Arg Arg Leu His Ser
    130                 135                 140


Glu Arg Glu Trp Leu Leu Lys Asp Gln Ile Arg Trp Ala Glu Leu Tyr
145                 150                 155                 160


Thr Leu Ile Glu Ala Ser Gly Thr Pro Pro Gln Gly Arg Trp Arg Asn
                165                 170                 175


Thr Leu Gly Ala Leu Arg Gly Gln Ser Arg Trp Arg Arg Val Leu Ala
            180                 185                 190


Pro Thr Met Arg Ala Thr Cys Ala Glu Thr His Ala Glu Leu Trp Asp
```

```
        195                 200                 205

Ala Leu Ala Glu Leu Val Pro Glu Met Ala Lys Asp Arg Arg Gly Leu
    210                 215                 220

Leu Arg Pro Pro Val Glu Ala Asp Ala Leu Trp Arg Ala Pro Met Ile
225                 230                 235                 240

Val Glu Gly Trp Arg Gly Gly His Ser Val Val Val Asp Ala Val Ala
                245                 250                 255

Pro Pro Leu Asp Leu Pro Gln Pro Cys Ala Trp Thr Ala Val Arg Leu
            260                 265                 270

Ser Gly Asp Pro Arg Gln Arg Trp Gly Leu His Leu Ala Val Pro Pro
        275                 280                 285

Leu Gly Gln Val Gln Pro Pro Asp Pro Leu Lys Ala Thr Leu Ala Val
    290                 295                 300

Ser Met Arg His Arg Gly Gly Val Arg Val Arg Thr Leu Gln Ala Met
305                 310                 315                 320

Ala Val Asp Ala Asp Ala Pro Met Gln Arg His Leu Gln Val Pro Leu
                325                 330                 335

Thr Leu Gln Arg Gly Gly Gly Leu Gln Trp Gly Ile His Ser Arg Gly
            340                 345                 350

Val Arg Arg Arg Glu Ala Arg Ser Met Ala Ser Trp Glu Gly Pro Pro
        355                 360                 365

Ile Trp Thr Gly Leu Gln Leu Val Asn Arg Trp Lys Gly Gln Gly Ser
    370                 375                 380

Ala Leu Leu Ala Pro Asp Arg Pro Pro Asp Thr Pro Pro Tyr Ala Pro
385                 390                 395                 400

Asp Ala Ala Val Ala Pro Ala Gln Pro Asp Thr Lys Arg Ala Arg Arg
                405                 410                 415
```

```
Thr Leu Lys Glu Ala Cys Thr Val Cys Arg Cys Ala Pro Gly His Met
            420                 425                 430

Arg Gln Leu Gln Val Thr Leu Thr Gly Asp Gly Thr Trp Arg Arg Phe
        435                 440                 445

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

Val Ala Thr Gln His Asp Glu Arg Ile Ala Asn Tyr Thr Ala Trp Tyr
465                 470                 475                 480

Leu Lys Arg Pro Glu His Ala Ala Gly Cys Asp Thr Cys Asp Gly Asp
                485                 490                 495

Ser Arg Leu Asp Gly Ala Cys Arg Gly Cys Arg Pro Leu Leu Val Gly
            500                 505                 510

Asp Gln Cys Phe Arg Arg Tyr Leu Asp Lys Ile Glu Ala Asp Arg Asp
        515                 520                 525

Asp Gly Leu Ala Gln Ile Lys Pro Lys Ala Gln Glu Ala Val Ala Ala
    530                 535                 540

Met Ala Ala Lys Arg Asp Ala Arg Ala Gln Lys Val Ala Ala Arg Ala
545                 550                 555                 560

Ala Lys Leu Ser Glu Ala Thr Gly Gln Arg Thr Ala Ala Thr Arg Asp
                565                 570                 575

Ala Ser His Glu Ala Arg Ala Gln Lys Glu Leu Glu Ala Val Ala Thr
            580                 585                 590

Glu Gly Thr Thr Val Arg His Asp Ala Ala Ala Val Ser Ala Phe Gly
        595                 600                 605

Ser Trp Val Ala Arg Lys Gly Asp Glu Tyr Arg His Gln Val Gly Val
    610                 615                 620

Leu Ala Asn Arg Leu Glu His Gly Leu Arg Leu Gln Glu Leu Met Ala
```

625 630 635 640

Pro Asp Ser Val Val Ala Asp Gln Gln Arg Ala Ser Gly His Ala Arg
645 650 655

Val Gly Tyr Arg Tyr Val Leu Thr Ala Met
660 665

<210> 217
<211> 560
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 217

Ala Val Ala His Pro Val Gly Arg Gly Asn Ala Gly Ser Pro Gly Ala
1 5 10 15

Arg Gly Pro Glu Glu Leu Pro Arg Gln Leu Val Asn Arg Ala Ser Asn
20 25 30

Val Thr Arg Pro Ala Thr Tyr Gly Cys Ala Pro Cys Arg His Val Arg
35 40 45

Leu Ser Ile Pro Lys Pro Val Leu Thr Gly Cys Arg Ala Cys Glu Gln
50 55 60

Thr Thr His Pro Ala Pro Lys Arg Ala Val Arg Gly Gly Ala Asp Ala
65 70 75 80

Ala Lys Tyr Asp Leu Ala Ala Phe Phe Ala Gly Trp Ala Ala Asp Leu
85 90 95

Glu Gly Arg Asn Arg Arg Arg Gln Val His Ala Pro Leu Asp Pro Gln
100 105 110

Pro Asp Pro Asn His Glu Pro Ala Val Thr Leu Gln Lys Ile Asp Leu
115 120 125

Ala Glu Val Ser Ile Glu Glu Phe Gln Arg Val Leu Ala Arg Ser Val

```
    130                 135                 140

Lys His Arg His Asp Gly Arg Ala Ser Arg Glu Arg Glu Lys Ala Arg
145                 150                 155                 160

Ala Tyr Ala Gln Val Ala Lys Lys Arg Arg Asn Ser His Ala His Gly
                165                 170                 175

Ala Arg Thr Arg Arg Ala Val Arg Arg Gln Thr Arg Ala Val Arg Arg
            180                 185                 190

Ala His Arg Met Gly Ala Asn Ser Gly Glu Ile Leu Val Ala Ser Gly
        195                 200                 205

Ala Glu Asp Pro Val Pro Glu Ala Ile Asp His Ala Ala Gln Leu Arg
    210                 215                 220

Arg Arg Ile Arg Ala Cys Ala Arg Asp Leu Glu Gly Leu Arg His Leu
225                 230                 235                 240

Ser Arg Arg Tyr Leu Lys Thr Leu Glu Lys Pro Cys Arg Arg Pro Arg
                245                 250                 255

Ala Pro Asp Leu Gly Arg Ala Arg Cys His Ala Leu Val Glu Ser Leu
            260                 265                 270

Gln Ala Ala Glu Arg Glu Leu Glu Glu Leu Arg Arg Cys Asp Ser Pro
        275                 280                 285

Asp Thr Ala Met Arg Arg Leu Asp Ala Val Leu Ala Ala Ala Ala Ser
    290                 295                 300

Thr Asp Ala Thr Phe Ala Thr Gly Trp Thr Val Val Gly Met Asp Leu
305                 310                 315                 320

Gly Val Ala Pro Arg Gly Ser Ala Ala Pro Glu Val Ser Pro Met Glu
                325                 330                 335

Met Ala Ile Ser Val Phe Trp Arg Lys Gly Ser Arg Arg Val Ile Val
            340                 345                 350
```

```
Ser Lys Pro Ile Ala Gly Met Pro Ile Arg Arg His Glu Leu Ile Arg
        355                 360                 365

Leu Glu Gly Leu Gly Thr Leu Arg Leu Asp Gly Asn His Tyr Thr Gly
    370                 375                 380

Ala Gly Val Thr Lys Gly Arg Gly Leu Ser Glu Gly Thr Glu Pro Asp
385                 390                 395                 400

Phe Arg Glu Lys Ser Pro Ser Thr Leu Gly Phe Thr Leu Ser Asp Tyr
                405                 410                 415

Arg His Glu Ser Arg Trp Arg Pro Tyr Gly Ala Lys Gln Gly Lys Thr
            420                 425                 430

Ala Arg Gln Phe Phe Ala Ala Met Ser Arg Glu Leu Arg Ala Leu Val
        435                 440                 445

Glu His Gln Val Leu Ala Pro Met Gly Pro Pro Leu Leu Glu Ala His
    450                 455                 460

Glu Arg Arg Phe Glu Thr Leu Leu Lys Gly Gln Asp Asn Lys Ser Ile
465                 470                 475                 480

His Ala Gly Gly Gly Gly Arg Tyr Val Trp Arg Gly Pro Pro Asp Ser
                485                 490                 495

Lys Lys Arg Pro Ala Ala Asp Gly Asp Trp Phe Arg Phe Gly Arg Gly
            500                 505                 510

His Ala Asp His Arg Gly Trp Ala Asn Lys Arg His Glu Leu Ala Ala
        515                 520                 525

Asn Tyr Leu Gln Ser Ala Phe Arg Leu Trp Ser Thr Leu Ala Glu Ala
    530                 535                 540

Gln Glu Pro Thr Pro Tyr Ala Arg Tyr Lys Tyr Thr Arg Val Thr Met
545                 550                 555                 560
```

<210> 218

<211> 404
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 218

Trp Asp Phe Leu Thr Leu Gln Val Tyr Glu Arg His Thr Ser Pro Glu
1 5 10 15

Val Cys Val Ala Gly Asn Ser Thr Lys Cys Ala Ser Gly Thr Arg Lys
20 25 30

Ser Asp His Thr His Gly Val Gly Val Lys Leu Gly Ala Gln Glu Ile
35 40 45

Asn Val Ser Ala Asn Asp Asp Arg Asp His Glu Val Gly Cys Asn Ile
50 55 60

Cys Val Ile Ser Arg Val Ser Leu Asp Ile Lys Gly Trp Arg Tyr Gly
65 70 75 80

Cys Glu Ser Cys Val Gln Ser Thr Pro Glu Trp Arg Ser Ile Val Arg
85 90 95

Phe Asp Arg Asn His Lys Glu Ala Lys Gly Glu Cys Leu Ser Arg Phe
100 105 110

Glu Tyr Trp Gly Ala Gln Ser Ile Ala Arg Ser Leu Lys Arg Asn Lys
115 120 125

Leu Met Gly Gly Val Asn Leu Asp Glu Leu Ala Ile Val Gln Asn Glu
130 135 140

Asn Val Val Lys Thr Ser Leu Lys His Leu Phe Asp Lys Arg Lys Asp
145 150 155 160

Arg Ile Gln Ala Asn Leu Lys Ala Val Lys Val Arg Met Arg Glu Arg
165 170 175

Arg Lys Ser Gly Arg Gln Arg Lys Ala Leu Arg Arg Gln Cys Arg Lys

```
            180                 185                 190

Leu Lys Arg Tyr Leu Arg Ser Tyr Asp Pro Ser Asp Ile Lys Glu Gly
        195                 200                 205

Asn Ser Cys Ser Ala Phe Thr Lys Leu Gly Leu Asp Ile Gly Ile Ser
    210                 215                 220

Pro Asn Lys Pro Pro Lys Ile Glu Pro Lys Val Glu Val Val Phe Ser
225                 230                 235                 240

Leu Phe Tyr Gln Gly Ala Cys Asp Lys Ile Val Thr Val Ser Ser Pro
                245                 250                 255

Glu Ser Pro Leu Pro Arg Ser Trp Lys Ile Lys Ile Asp Gly Ile Arg
            260                 265                 270

Ala Leu Tyr Val Lys Ser Thr Lys Val Lys Phe Gly Gly Arg Thr Phe
        275                 280                 285

Arg Ala Gly Gln Arg Asn Asn Arg Arg Lys Val Arg Pro Pro Asn Val
    290                 295                 300

Lys Lys Gly Lys Arg Lys Gly Ser Arg Ser Gln Phe Phe Asn Lys Phe
305                 310                 315                 320

Ala Val Gly Leu Asp Ala Val Ser Gln Gln Leu Pro Ile Ala Ser Val
                325                 330                 335

Gln Gly Leu Trp Gly Arg Ala Glu Thr Lys Lys Ala Gln Thr Ile Cys
            340                 345                 350

Leu Lys Gln Leu Glu Ser Asn Lys Pro Leu Lys Glu Ser Gln Arg Cys
        355                 360                 365

Leu Phe Leu Ala Asp Asn Trp Val Val Arg Val Cys Gly Phe Leu Arg
    370                 375                 380

Ala Leu Ser Gln Arg Gln Gly Pro Thr Pro Tyr Ile Arg Tyr Arg Tyr
385                 390                 395                 400
```

Arg Cys Asn Met

<210> 219
<211> 392
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 219

```
Ala Arg Asn Val Gly Gln Arg Asn Ala Ser Arg Gln Ser Lys Arg Glu
1               5                   10                  15


Ser Ala Lys Ala Arg Ser Arg Arg Val Thr Gly Gly His Ala Ser Val
            20                  25                  30


Thr Gln Gly Val Ala Leu Ile Asn Ala Ala Ala Asn Ala Asp Arg Asp
        35                  40                  45


His Thr Thr Gly Cys Glu Pro Cys Thr Trp Glu Arg Val Asn Leu Pro
    50                  55                  60


Leu Gln Glu Val Ile His Gly Cys Asp Ser Cys Thr Lys Ser Ser Pro
65                  70                  75                  80


Phe Trp Arg Asp Ile Lys Val Val Asn Lys Gly Tyr Arg Glu Ala Lys
                85                  90                  95


Glu Glu Ile Met Arg Ile Ala Ser Gly Ile Ser Ala Asp His Leu Ser
            100                 105                 110


Arg Ala Leu Ser His Asn Lys Val Met Gly Arg Leu Asn Leu Asp Glu
        115                 120                 125


Val Cys Ile Leu Asp Phe Arg Thr Val Leu Asp Thr Ser Leu Lys His
    130                 135                 140


Leu Thr Asp Ser Arg Ser Asn Gly Ile Lys Glu His Ile Arg Ala Val
145                 150                 155                 160
```

```
His Arg Lys Ile Arg Met Arg Arg Lys Ser Gly Lys Thr Ala Arg Ala
               165                 170                 175

Leu Arg Lys Gln Tyr Phe Ala Leu Arg Arg Gln Trp Lys Ala Gly His
            180                 185                 190

Lys Pro Asn Ser Ile Arg Glu Gly Asn Ser Leu Thr Ala Leu Arg Ala
        195                 200                 205

Val Gly Phe Asp Val Gly Val Ser Glu Gly Thr Glu Pro Met Pro Ala
    210                 215                 220

Pro Gln Thr Glu Val Val Leu Ser Val Phe Tyr Lys Gly Ser Ala Thr
225                 230                 235                 240

Arg Ile Leu Arg Ile Ser Ser Pro His Pro Ile Ala Lys Arg Ser Trp
               245                 250                 255

Lys Val Lys Ile Ala Gly Ile Lys Ala Leu Lys Leu Ile Arg Arg Glu
            260                 265                 270

His Asp Phe Ser Phe Gly Arg Glu Thr Tyr Asn Ala Ser Gln Arg Ala
        275                 280                 285

Glu Lys Arg Lys Phe Ser Pro His Ala Ala Arg Lys Asp Phe Phe Asn
    290                 295                 300

Ser Phe Ala Val Gln Leu Asp Arg Leu Ala Gln Gln Leu Cys Val Ser
305                 310                 315                 320

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

Leu Ala Lys Asp Thr Ala Pro Tyr Gly Ile Arg Glu Gly Ala Arg Phe
            340                 345                 350

Ala Asp Thr Arg Ala Arg Leu Ala Trp Asn Trp Val Phe Arg Val Cys
        355                 360                 365

Gly Phe Thr Arg Ala Leu His Gln Glu Gln Glu Pro Thr Pro Tyr Cys
```

370 375 380

Arg Phe Thr Trp Arg Ser Lys Met
385 390

<210> 220
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 220
ctacgccgat tatcttctga caactttcgc aagcggtgta aggtaaaaaa tgcgggcac 59

<210> 221
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 221
gtgcccgcat tttttacctt acaccgcttg cgaaagttgt cagaagataa tcggcgtag 59

<210> 222
<211> 90
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 222
tttatatgtt tctcctggag ataacgcaat cgtgacaact ttcgcaagcg gtgtaaggta 60

gcaggcttcc gaattccgcg tttttacggc 90

<210> 223
<211> 90
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 223

gccgtaaaaa cgcggaattc ggaagcctgc taccttacac cgcttgcgaa agttgtcacg 60

attgcgttat ctccaggaga aacatataaa 90

<210> 224
<211> 56
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 224
gatcttcagc tatacattat tgcaccaaca ctaaggcaga gtatgtttac ctggac 56

<210> 225
<211> 56
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 225
gatcttcagc tttgtattac tggaaggatg cttgcttgag gtgtaaaaac ctggac 56

<210> 226
<211> 5
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 226
ttttt 5

<210> 227
<211> 6
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 227
tttttt 6

<210> 228

<211> 7
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 228
ttttttt 7

<210> 229
<211> 8
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 229
tttttttt 8

<210> 230
<211> 9
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 230
ttttttttt 9

<210> 231
<211> 10
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 231
tttttttttt 10

<210> 232
<211> 11
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 232
ttttttttt t 11

<210> 233
<211> 12
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 233
ttttttttt tt 12

<210> 234
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 234
gccggggtgg tgcccatcct ggtcgagctg gacggcgacg taaacggcca caagc 55

<210> 235
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 235
gccggggtgg tgcccatcct ggtcgagctg gacggcgacg tgctcggcca caagc 55

<210> 236
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 236
gccggggtgg tgcccatcct ggtcgagctg gacggcgagc taaacggcca caagc 55

<210> 237

<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 237
gccggggtgg tgcccatcct ggtcgagctg gacggcctcg taaacggcca caagc 55

<210> 238
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 238
gccggggtgg tgcccatcct ggtcgagctg gacgcggacg taaacggcca caagc 55

<210> 239
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 239
gccggggtgg tgcccatcct ggtcgagctg gagcgcgacg taaacggcca caagc 55

<210> 240
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 240
gccggggtgg tgcccatcct ggtcgagctg ctcggcgacg taaacggcca caagc 55

<210> 241
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 241
gccggggtgg tgcccatcct ggtcgagcac gacggcgacg taaacggcca caagc 55

<210> 242
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 242
gccggggtgg tgcccatcct ggtcgacgtg gacggcgacg taaacggcca caagc 55

<210> 243
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 243
gccggggtgg tgcccatcct ggtcctgctg gacggcgacg taaacggcca caagc 55

<210> 244
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 244
gccggggtgg tgcccatcct ggaggagctg gacggcgacg taaacggcca caagc 55

<210> 245
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 245
gccggggtgg tgcccatcct cctcgagctg gacggcgacg taaacggcca caagc 55

<210> 246

<211> 34
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 246
gtgttaatac aaaggtacag gaacaaagaa tttg 34

<210> 247
<211> 18
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 247
caaagagaag cctcggcc 18

<210> 248
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 248
tttattcaag gcaatcacta tcagctgtgg aacacccagg taaactaaca caact 55

<210> 249
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 249
tttattcaag gcaatcacta tcagctgtgg aacacccagg tgctctaaca caact 55

<210> 250
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 250
tttattcaag gcaatcacta tcagctgtgg aacacccacc taaactaaca caact 55

<210> 251
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 251
tttattcaag gcaatcacta tcagctgtgg aacaccgtgg taaactaaca caact 55

<210> 252
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 252
tttattcaag gcaatcacta tcagctgtgg aacaggcagg taaactaaca caact 55

<210> 253
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 253
tttattcaag gcaatcacta tcagctgtgg aagtcccagg taaactaaca caact 55

<210> 254
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 254
tttattcaag gcaatcacta tcagctgtgg ttcacccagg taaactaaca caact 55

<210> 255

<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 255
tttattcaag gcaatcacta tcagctgtcc aacacccagg taaactaaca caact 55

<210> 256
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 256
tttattcaag gcaatcacta tcagctcagg aacacccagg taaactaaca caact 55

<210> 257
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 257
tttattcaag gcaatcacta tcaggagtgg aacacccagg taaactaaca caact 55

<210> 258
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 258
tttattcaag gcaatcacta tctcctgtgg aacacccagg taaactaaca caact 55

<210> 259
<211> 55
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 259
tttattcaag gcaatcacta agagctgtgg aacacccagg taaactaaca caact 55

<210> 260
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 260
ctacgccgat tatcttctga caactttcgc aagcggtgta aggcgaaaaa tgcgggcac 59

<210> 261
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 261
ctacgccgat tatcttctga caactttcgc aagcggtgta aaataaaaaa tgcgggcac 59

<210> 262
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 262
ctacgccgat tatcttctga caactttcgc aagcggtgtg gggtaaaaaa tgcgggcac 59

<210> 263
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 263
ctacgccgat tatcttctga caactttcgc aagcggtaca aggtaaaaaa tgcgggcac 59

<210> 264

<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 264
ctacgccgat tatcttctga caactttcgc aagcgacgta aggtaaaaaa tgcgggcac 59

<210> 265
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 265
ctacgccgat tatcttctga caactttcgc aagtagtgta aggtaaaaaa tgcgggcac 59

<210> 266
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 266
ctacgccgat tatcttctga caactttcgc agacggtgta aggtaaaaaa tgcgggcac 59

<210> 267
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 267
ctacgccgat tatcttctga caactttcgt gagcggtgta aggtaaaaaa tgcgggcac 59

<210> 268
<211> 59
<212> DNA
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<220>
<223> Synthetic sequence

<400> 268
ctacgccgat tatcttctga caacttttac aagcggtgta aggtaaaaaa tgcgggcac 59

<210> 269
<211> 59
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 269
ctacgccgat tatcttctga caactcccgc aagcggtgta aggtaaaaaa tgcgggcac 59

<210> 270
<211> 59
<212> DNA
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<220>
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<400> 270
ctacgccgat tatcttctga caatcttcgc aagcggtgta aggtaaaaaa tgcgggcac 59

<210> 271
<211> 59
<212> DNA
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<220>
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<400> 271
ctacgccgat tatcttctga cggctttcgc aagcggtgta aggtaaaaaa tgcgggcac 59

<210> 272
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<212> DNA
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<220>
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<400> 272
ctacgccgat tatcttctgg taactttcgc aagcggtgta aggtaaaaaa tgcgggcac 59

<210> 273

<211> 49
<212> DNA
<213> Artificial sequence

<220>
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<400> 273
tatcttctga caactttcgc aagcggtgta aggtaaaaaa tgcgggcac 49

<210> 274
<211> 44
<212> DNA
<213> Artificial sequence

<220>
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<400> 274
tctgacaact ttcgcaagcg gtgtaaggta aaaaatgcgg gcac 44

<210> 275
<211> 39
<212> DNA
<213> Artificial sequence

<220>
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<400> 275
caactttcgc aagcggtgta aggtaaaaaa tgcgggcac 39

<210> 276
<211> 34
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 276
ttcgcaagcg gtgtaaggta aaaaatgcgg gcac 34

<210> 277
<211> 54
<212> DNA
<213> Artificial sequence

<220>
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<400> 277
ctacgccgat tatcttctga caactttcgc aagcggtgta aggtaaaaaa tgcg 54

<210> 278
<211> 49
<212> DNA
<213> Artificial sequence

<220>
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<400> 278
ctacgccgat tatcttctga caactttcgc aagcggtgta aggtaaaaa 49

<210> 279
<211> 40
<212> DNA
<213> Artificial sequence

<220>
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<400> 279
ctacgccgat tatcttctga caactttcgc aagcggtgta 40

<210> 280
<211> 35
<212> DNA
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<220>
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<400> 280
ctacgccgat tatcttctga caactttcgc aagcg 35

<210> 281
<211> 30
<212> DNA
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<220>
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<400> 281
ctacgccgat tatcttctga caactttcgc 30

<210> 282

<211> 25
<212> DNA
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<220>
<223> Synthetic sequence

<400> 282
ctacgccgat tatcttctga caact 25

<210> 283
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 283
ctacgccgat tatcttctga 20

<210> 284
<211> 34
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 284
caactttcgc aagcggtgta aggtaaaaaa tgcg 34

<210> 285
<211> 63
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 285
atggaatgtg gcgaacgctt tcaacgaaac aactttcgca agcggtgtaa ggtaaaaaat 60

gcg 63

<210> 286
<211> 63
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<220>
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<400> 286
atggaatgtg gcgaacgctt agttggaaac aactttcgca agcggtgtaa ggtaaaaaat 60

gcg 63

<210> 287
<211> 63
<212> DNA
<213> Artificial sequence

<220>
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<400> 287
atggaatgtg gcgaagcgaa agttggaaac aactttcgca agcggtgtaa ggtaaaaaat 60

gcg 63

<210> 288
<211> 63
<212> DNA
<213> Artificial sequence

<220>
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<400> 288
atggaatgtg cgcttgcgaa agttggaaac aactttcgca agcggtgtaa ggtaaaaaat 60

gcg 63

<210> 289
<211> 63
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 289
atggatacac cgcttgcgaa agttggaaac aactttcgca agcggtgtaa ggtaaaaaat 60

gcg 63

<210> 290
<211> 63
<212> DNA

<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 290
taccttacac cgcttgcgaa agttggaaac aactttcgca agcggtgtaa ggtaaaaaat 60

gcg 63

<210> 291
<211> 40
<212> DNA
<213> Artificial sequence

<220>
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<400> 291
gttttatctt ctgctggtgg ttcgttcggt atttttaatg 40

<210> 292
<211> 40
<212> DNA
<213> Artificial sequence

<220>
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<400> 292
cattaaaaat accgaacgaa ccaccagcag aagataaaac 40

<210> 293
<211> 43
<212> DNA
<213> Artificial sequence

<220>
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<400> 293
gaccatttgc gaaatgtatc taatggtcaa actaaatcta ctc 43

<210> 294
<211> 43
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 294
gagtagattt agtttgacca ttagatacat ttcgcaaatg gtc 43

<210> 295
<211> 37
<212> DNA
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<220>
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<400> 295
cttgcagaac ccggatagac gaatgaagga atgcaac 37

<210> 296
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 296
cttgcaggcc ttgaatagag gagttaagga atgcaac 37

<210> 297
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 297
gttgcacagt gctaattaga gaaactagga atgcaac 37

<210> 298
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 298
ctagcatatt cagaacaaag ggattaagga atgcaac 37

<210> 299

<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 299
ctttcatatt cagaaactag gggttaagga ctgcaac 37

<210> 300
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 300
gttgcatccc tacgtcgtga gcaccggtga gtgcaac 37

<210> 301
<211> 31
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 301
ggaaaggaat cccctgaagg aaacgagggg g 31

<210> 302
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 302
gtgtccatca atcagatttg cgttggccgg tgcaat 36

<210> 303
<211> 37
<212> DNA
<213> Artificial sequence

<220>
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<400> 303
gtttcagcgc acgaattaac gagatgagag atgcaac 37

<210> 304
<211> 500
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 304

Lys Glu Pro Leu Asn Ile Gly Lys Thr Ala Lys Ala Val Phe Lys Glu
1 5 10 15

Ile Asp Pro Thr Ser Leu Asn Arg Ala Ala Asn Tyr Asp Ala Ser Ile
20 25 30

Glu Leu Asn Cys Lys Glu Cys Lys Phe Lys Pro Phe Lys Asn Val Lys
35 40 45

Arg Tyr Glu Phe Asn Phe Tyr Asn Asn Trp Tyr Arg Cys Asn Pro Asn
50 55 60

Ser Cys Leu Gln Ser Thr Tyr Lys Ala Gln Val Arg Lys Val Glu Ile
65 70 75 80

Gly Tyr Glu Lys Leu Lys Asn Glu Ile Leu Thr Gln Met Gln Tyr Tyr
85 90 95

Pro Trp Phe Gly Arg Leu Tyr Gln Asn Phe Phe His Asp Glu Arg Asp
100 105 110

Lys Met Thr Ser Leu Asp Glu Ile Gln Val Ile Gly Val Gln Asn Lys
115 120 125

Val Phe Phe Asn Thr Val Glu Lys Ala Trp Arg Glu Ile Ile Lys Lys
130 135 140

Arg Phe Lys Asp Asn Lys Glu Thr Met Glu Thr Ile Pro Glu Leu Lys
145 150 155 160

```
His Ala Ala Gly His Gly Lys Arg Lys Leu Ser Asn Lys Ser Leu Leu
                165                 170                 175

Arg Arg Arg Phe Ala Phe Val Gln Lys Ser Phe Lys Phe Val Asp Asn
            180                 185                 190

Ser Asp Val Ser Tyr Arg Ser Phe Ser Asn Asn Ile Ala Cys Val Leu
        195                 200                 205

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

Lys Arg Glu Tyr Ile Pro Gln Glu Ile Ser Phe Asn Ala Phe Trp Lys
225                 230                 235                 240

Gln His Glu Gly Leu Lys Lys Gly Arg Asn Ile Glu Ile Gln Ser Val
                245                 250                 255

Gln Tyr Lys Gly Glu Thr Val Lys Arg Ile Glu Ala Asp Thr Gly Glu
            260                 265                 270

Asp Lys Ala Trp Gly Lys Asn Arg Gln Arg Arg Phe Thr Ser Leu Ile
        275                 280                 285

Leu Lys Leu Val Pro Lys Gln Gly Gly Lys Lys Val Trp Lys Tyr Pro
    290                 295                 300

Glu Lys Arg Asn Glu Gly Asn Tyr Glu Tyr Phe Pro Ile Pro Ile Glu
305                 310                 315                 320

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

Gly Glu Ala Gly Lys Gln Lys His Leu Val Ile Pro Phe Asn Asp Ser
            340                 345                 350

Lys Ala Thr Pro Leu Ala Ser Gln Gln Thr Leu Leu Glu Asn Ser Arg
        355                 360                 365

Phe Asn Ala Glu Val Lys Ser Cys Ile Gly Leu Ala Ile Tyr Ala Asn
```

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    370                 375                 380

Tyr Phe Tyr Gly Tyr Ala Arg Asn Tyr Val Ile Ser Ser Ile Tyr His
385                 390                 395                 400

Lys Asn Ser Lys Asn Gly Gln Ala Ile Thr Ala Ile Tyr Leu Glu Ser
                405                 410                 415

Ile Ala His Asn Tyr Val Lys Ala Ile Glu Arg Gln Leu Gln Asn Leu
            420                 425                 430

Leu Leu Asn Leu Arg Asp Phe Ser Phe Met Glu Ser His Lys Lys Glu
        435                 440                 445

Leu Lys Lys Tyr Phe Gly Gly Asp Leu Glu Gly Thr Gly Gly Ala Gln
    450                 455                 460

Lys Arg Arg Glu Lys Glu Glu Lys Ile Glu Lys Glu Ile Glu Gln Ser
465                 470                 475                 480

Tyr Leu Pro Arg Leu Ile Arg Leu Ser Leu Thr Lys Met Val Thr Lys
                485                 490                 495

Gln Val Glu Met
            500


<210>  305
<211>  507
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic sequence

<400>  305

Glu Leu Ile Val Asn Glu Asn Lys Asp Pro Leu Asn Ile Gly Lys Thr
1               5                   10                  15

Ala Lys Ala Val Phe Lys Glu Ile Asp Pro Thr Ser Ile Asn Arg Ala
            20                  25                  30

Ala Asn Tyr Asp Ala Ser Ile Glu Leu Ala Cys Lys Glu Cys Lys Phe
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```
        35                  40                  45

Lys Pro Phe Asn Asn Thr Lys Arg His Asp Phe Ser Phe Tyr Ser Asn
    50                  55                  60

Trp His Arg Cys Ser Pro Asn Ser Cys Leu Gln Ser Thr Tyr Arg Ala
65                  70                  75                  80

Lys Ile Arg Lys Thr Glu Ile Gly Tyr Glu Lys Leu Lys Asn Glu Ile
                85                  90                  95

Leu Asn Gln Met Gln Tyr Tyr Pro Trp Phe Gly Arg Leu Tyr Gln Asn
            100                 105                 110

Phe Phe Asn Asp Gln Arg Asp Lys Met Thr Ser Leu Asp Glu Ile Gln
        115                 120                 125

Val Thr Gly Val Gln Asn Lys Ile Phe Phe Asn Thr Val Glu Lys Ala
    130                 135                 140

Trp Arg Glu Ile Ile Lys Lys Arg Phe Arg Asp Asn Lys Glu Thr Met
145                 150                 155                 160

Arg Thr Ile Pro Asp Leu Lys Asn Lys Ser Gly His Gly Ser Arg Lys
                165                 170                 175

Leu Ser Asn Lys Ser Leu Leu Arg Arg Arg Phe Ala Phe Ala Gln Lys
            180                 185                 190

Ser Phe Lys Leu Val Asp Asn Ser Asp Val Ser Tyr Arg Ala Phe Ser
        195                 200                 205

Asn Asn Val Ala Cys Val Leu Pro Ser Lys Ile Gly Val Asp Ile Gly
    210                 215                 220

Gly Ile Ile Asn Lys Asp Leu Lys Arg Glu Tyr Ile Pro Gln Glu Ile
225                 230                 235                 240

Thr Phe Asn Val Phe Trp Lys Gln His Asp Gly Leu Lys Lys Gly Arg
                245                 250                 255
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Asn Ile Glu Ile His Ser Val Gln Tyr Lys Gly Glu Ile Val Lys Arg
            260                 265                 270

Ile Glu Ala Asp Thr Gly Glu Asp Lys Ala Trp Gly Lys Asn Arg Gln
        275                 280                 285

Arg Arg Phe Thr Ser Leu Ile Leu Lys Ile Thr Pro Lys Gln Gly Gly
    290                 295                 300

Lys Lys Ile Trp Lys Phe Pro Glu Lys Lys Asn Ala Ser Asp Tyr Glu
305                 310                 315                 320

Tyr Phe Pro Ile Pro Ile Glu Phe Ile Leu Asp Asn Gly Asp Ala Ser
                325                 330                 335

Ile Lys Phe Gly Gly Glu Glu Gly Glu Val Gly Lys Gln Lys His Leu
            340                 345                 350

Leu Ile Pro Phe Asn Asp Ser Lys Ala Thr Pro Leu Ser Ser Lys Gln
        355                 360                 365

Met Leu Leu Glu Thr Ser Arg Phe Asn Ala Glu Val Lys Ser Thr Ile
    370                 375                 380

Gly Leu Ala Leu Tyr Ala Asn Tyr Phe Val Ser Tyr Ala Arg Asn Tyr
385                 390                 395                 400

Val Ile Lys Ser Thr Tyr His Lys Asn Ser Lys Lys Gly Gln Ile Val
                405                 410                 415

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

Gln Arg Gln Leu Gln Ser Leu Met Leu Asn Leu Lys Asp Trp Gly Phe
        435                 440                 445

Met Gln Thr His Lys Lys Glu Leu Lys Lys Tyr Phe Gly Ser Asp Leu
    450                 455                 460

Glu Gly Ser Lys Gly Gly Gln Lys Arg Arg Glu Lys Glu Glu Lys Ile
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465 470 475 480

Glu Lys Glu Ile Glu Ala Ser Tyr Leu Pro Arg Leu Ile Arg Leu Ser
485 490 495

Leu Thr Lys Ser Val Thr Lys Ala Glu Glu Met
500 505

<210> 306
<211> 529
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 306

Pro Glu Glu Lys Thr Ser Lys Leu Lys Pro Asn Ser Ile Asn Leu Ala
1 5 10 15

Ala Asn Tyr Asp Ala Asn Glu Lys Phe Asn Cys Lys Glu Cys Lys Phe
20 25 30

His Pro Phe Lys Asn Lys Lys Arg Tyr Glu Phe Asn Phe Tyr Asn Asn
35 40 45

Leu His Gly Cys Lys Ser Cys Thr Lys Ser Thr Asn Asn Pro Ala Val
50 55 60

Lys Arg Ile Glu Ile Gly Tyr Gln Lys Leu Lys Phe Glu Ile Lys Asn
65 70 75 80

Gln Met Glu Ala Tyr Pro Trp Phe Gly Arg Leu Arg Ile Asn Phe Tyr
85 90 95

Ser Asp Glu Lys Arg Lys Met Ser Glu Leu Asn Glu Met Gln Val Thr
100 105 110

Gly Val Lys Asn Lys Ile Phe Phe Asp Ala Ile Glu Cys Ala Trp Arg
115 120 125

Glu Ile Leu Lys Lys Arg Phe Arg Glu Ser Lys Glu Thr Leu Ile Thr

```
    130                 135                 140

Ile Pro Lys Leu Lys Asn Lys Ala Gly His Gly Ala Arg Lys His Arg
145                 150                 155                 160

Asn Lys Lys Leu Leu Ile Arg Arg Arg Ala Phe Met Lys Lys Asn Phe
                165                 170                 175

His Phe Leu Asp Asn Asp Ser Ile Ser Tyr Arg Ser Phe Ala Asn Asn
            180                 185                 190

Ile Ala Cys Val Leu Pro Ser Lys Val Gly Val Asp Ile Gly Gly Ile
        195                 200                 205

Ile Ser Pro Asp Val Gly Lys Asp Ile Lys Pro Val Asp Ile Ser Leu
    210                 215                 220

Asn Leu Met Trp Ala Ser Lys Glu Gly Ile Lys Ser Gly Arg Lys Val
225                 230                 235                 240

Glu Ile Tyr Ser Thr Gln Tyr Asp Gly Asn Met Val Lys Lys Ile Glu
                245                 250                 255

Ala Glu Thr Gly Glu Asp Lys Ser Trp Gly Lys Asn Arg Lys Arg Arg
            260                 265                 270

Gln Thr Ser Leu Leu Leu Ser Ile Pro Lys Pro Ser Lys Gln Val Gln
        275                 280                 285

Glu Phe Asp Phe Lys Glu Trp Pro Arg Tyr Lys Asp Ile Glu Lys Lys
    290                 295                 300

Val Gln Trp Arg Gly Phe Pro Ile Lys Ile Ile Phe Asp Ser Asn His
305                 310                 315                 320

Asn Ser Ile Glu Phe Gly Thr Tyr Gln Gly Gly Lys Gln Lys Val Leu
                325                 330                 335

Pro Ile Pro Phe Asn Asp Ser Lys Thr Thr Pro Leu Gly Ser Lys Met
            340                 345                 350
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Asn Lys Leu Glu Lys Leu Arg Phe Asn Ser Lys Ile Lys Ser Arg Leu
        355                 360                 365

Gly Ser Ala Ile Ala Ala Asn Lys Phe Leu Glu Ala Ala Arg Thr Tyr
    370                 375                 380

Cys Val Asp Ser Leu Tyr His Glu Val Ser Ser Ala Asn Ala Ile Gly
385                 390                 395                 400

Lys Gly Lys Ile Phe Ile Glu Tyr Tyr Leu Glu Ile Leu Ser Gln Asn
                405                 410                 415

Tyr Ile Glu Ala Ala Gln Lys Gln Leu Gln Arg Phe Ile Glu Ser Ile
            420                 425                 430

Glu Gln Trp Phe Val Ala Asp Pro Phe Gln Gly Arg Leu Lys Gln Tyr
        435                 440                 445

Phe Lys Asp Asp Leu Lys Arg Ala Lys Cys Phe Leu Cys Ala Asn Arg
    450                 455                 460

Glu Val Gln Thr Thr Cys Tyr Ala Ala Val Lys Leu His Lys Ser Cys
465                 470                 475                 480

Ala Glu Lys Val Lys Asp Lys Asn Lys Glu Leu Ala Ile Lys Glu Arg
                485                 490                 495

Asn Asn Lys Glu Asp Ala Val Ile Lys Glu Val Glu Ala Ser Asn Tyr
            500                 505                 510

Pro Arg Val Ile Arg Leu Lys Leu Thr Lys Thr Ile Thr Asn Lys Ala
        515                 520                 525

Met
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<210> 307
<211> 35
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 307
cttttagaca gtttaaattc taaagggtat aaaac 35

<210> 308
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 308
gtcgaaatgc ccgcgcgggg gcgtcgtacc cgcgac 36

<210> 309
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 309
gttgcagcgg ccgacggagc gcgagcgtgg atgccac 37

<210> 310
<211> 35
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 310
ctttagactt ctccggaagt cgaattaatg gaaac 35

<210> 311
<211> 28
<212> DNA
<213> Artificial sequence

<220>
<223> Synthetic sequence

<400> 311
gggcgccccg cgcgagcggg ggttgaag 28

<210> 312
<211> 136
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 312
gaaggatgct tgcttgaggt gtagttgtca ttccttcatt cgtctattcg ggttctgcaa 60

ctatacatta ttgcaccaac actaaggcag agtatggttg cattccttca ttcgtctatt 120

cgggttctgc aacggg 136

<210> 313
<211> 102
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 313
agaatgcttg cttgaggtgt agttgcattc cttcattcgt ctattcgggt aattgcacca 60

acactaaggc agagtatggt tgcattcctt cattcgtcta gg 102

<210> 314
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 314
cgatgcttgc ttgaggtgta gttgcattgc accaacacta aggcagagta tggttgcatt 60

ccttcattcg tctag 75

<210> 315
<211> 90
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 315

gatgcttgct tgaggtgtag ttgcattcct tcattctgca ccaacactaa ggcagagtat 60

ggttgcattc cttttcgggt tctgcaacgg 90

<210> 316
<211> 73
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 316
gcttgcttga ggtgtagttg cattccttca ttccacctac actaaggcag agtatggttg 60

cattccttca ttc 73

<210> 317
<211> 73
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 317
gcttgcttga ggtgtagttg cattccttca ttccacctac actaaggcag agtatggttg 60

cattccttca ttc 73

<210> 318
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 318
gcttgcttga ggtgtagttg cattcgcaac actaaggcag agtatggttg cattccttca 60

ttc 63

<210> 319
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 319
cttgcttgag gtgtagttgc cgacactaag gcagagtatg gttgcattat tcgggttctg 60

caacgg 66

<210> 320
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 320
cttgcttgag gtgtagttgc attccttcat tcaaacacta aggcagagta tggttgcatt 60

ccttcattc 69

<210> 321
<211> 73
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 321
ttgcttgagg tgtagttgca ttccttcatt ctaacactaa ggcagagtat ggttgcattc 60

cttcattcgt cta 73

<210> 322
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 322
ttgcttgagg tgtagttgca tccacactaa ggcagagtat ggttgcattc cttcattc 58

<210> 323
<211> 67
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 323
tgcttaaggt gtagttgcat tccttcattc caacactaag gcagagtatg gttgcattcc 60

ttcattc 67

<210> 324
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 324
tgcttgaggt gtagttgcat tccttcattc cacactaagg cagagtatgg ttgcattcct 60

tcattc 66

<210> 325
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 325
tgcttgaggt gtagttgcat tccttcattc aacactaagg cagagtatgg ttgcattcct 60

tcattcgtct at 72

<210> 326
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 326
cttgaggtgt agttgcattc cttcattcaa cactaaggca gagtatggtt gcattccttc 60

attc 64

<210> 327
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 327
cttgaggtgt agttgcattc cttaacacta aggcagagta tggttgcatt ccttcattc 59

<210> 328
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 328
ttgaggtgta gttgcattcc ttcattcaac actaaggcag agtatggttg cattccttca 60

ttc 63

<210> 329
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 329
tgaggtgtag ttgcattcct tcattcaaca ctaaggcaga gtatggttgc attccttcat 60

tc 62

<210> 330
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 330
tgaggtgtag ttgcattcct tcgttcacac taaggcagag tatggttgca ttccttcatt 60

c 61

<210> 331
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 331
tgaggtgtag ttgcattcct tcattcacac taaggcagag tatggttgca ttccttcatt 60

c 61

<210> 332
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 332
ctacgccgat tatcttctga caactttcgc aagcggtgta aggtaaaaaa tgcgggcacc 60

c 61

<210> 333
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic sequence

<400> 333
ggaatgcaac taccttacac cgcttgcgaa 30

<210> 334
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gagtgaaggt gg 72

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cctcgaaaca aattca 136

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aagtaaccct cgaaacaaat tcatttttcc tctccaattc tgcacaaaaa aaggtgagtc 180

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