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<110> ENCODED THERAPEUTICS, INC.

<120> ENGINEERED DNA BINDING PROTEINS

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<150> 62/664,817
<151> 2018-04-30

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<151> 2018-04-30

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<151> 2018-03-21

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<170> PatentIn version 3.5

<210> 1
<211> 543
<212> PRT
<213> Artificial Sequence

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

<400> 1
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

```
Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255
```

```
Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    370                 375                 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
            420                 425                 430

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
        435                 440                 445

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
    450                 455                 460
```

```
Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
465                 470                 475                 480


Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
                485                 490                 495


Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
            500                 505                 510


Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
        515                 520                 525


Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
    530                 535                 540


<210> 2
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 2
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1               5                   10                  15


Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
            20                  25                  30


Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45


Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60


Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80


Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95
```

```
Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
305                 310                 315                 320
```

```
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Leu
                325                 330                 335

Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe
            340                 345                 350

Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr Gly Glu
        355                 360                 365

Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Arg Arg
    370                 375                 380

Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys
385                 390                 395                 400

Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val Arg
                405                 410                 415

His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys
            420                 425                 430

Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln Arg Thr
        435                 440                 445

His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe
    450                 455                 460

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

Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg Thr
                485                 490                 495

Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser Lys
            500                 505                 510

Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
        515                 520                 525
```

Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
530 535 540

Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545 550 555 560

Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
565 570 575

Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
580 585 590

Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
595 600 605

Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
610 615 620

Pro Arg Thr Ile Glu Ile Cys
625 630

<210> 3
<211> 543
<212> PRT
<213> Artificial Sequence

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

<400> 3
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

```
Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285
```

```
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu
    290                 295                 300

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

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

Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn Leu Val
    370                 375                 380

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
            420                 425                 430

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
        435                 440                 445

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
    450                 455                 460

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
465                 470                 475                 480

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
                485                 490                 495
```

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
500 505 510

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
515 520 525

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
530 535 540

<210> 4
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 4
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
100 105 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
115 120 125

```
Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg
            340                 345                 350
```

```
Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg
    370                 375                 380

Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His Arg
                485                 490                 495

Thr Thr Leu Thr Asn His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
            500                 505                 510

Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
        515                 520                 525

Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
    530                 535                 540

Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545                 550                 555                 560
```

Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
565 570 575

Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
580 585 590

Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
595 600 605

Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
610 615 620

Pro Arg Thr Ile Glu Ile Cys
625 630

<210> 5
<211> 627
<212> PRT
<213> Artificial Sequence

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

<400> 5
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95

```
Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
305                 310                 315                 320
```

```
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg
            340                 345                 350

Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg
    370                 375                 380

Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Ile Arg
                405                 410                 415

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
            420                 425                 430

Phe Ser Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly
        435                 440                 445

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
    450                 455                 460

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

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr
                485                 490                 495

Asn His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
            500                 505                 510

Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser
        515                 520                 525
```

Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser
530 535 540

Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser
545 550 555 560

Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser
565 570 575

Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala
580 585 590

Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala
595 600 605

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

Glu Ile Cys
625

<210> 6
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 6
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

```
Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285
```

```
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu
    290                 295                 300

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His
    370                 375                 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn
                485                 490                 495
```

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

Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
515 520 525

Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
530 535 540

Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545 550 555 560

Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
565 570 575

Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
580 585 590

Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
595 600 605

Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
610 615 620

Pro Arg Thr Ile Glu Ile Cys
625 630

<210> 7
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 7
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

```
Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255
```

```
Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr
    370                 375                 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460
```

```
Phe Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg Thr His Thr Gly
465                 470                 475                 480


Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu
                485                 490                 495


Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
            500                 505                 510


Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
        515                 520                 525


Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
    530                 535                 540


Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545                 550                 555                 560


Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
                565                 570                 575


Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
            580                 585                 590


Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
        595                 600                 605


Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
    610                 615                 620


Pro Arg Thr Ile Glu Ile Cys
625                 630
```

<210> 8
<211> 627
<212> PRT
<213> Artificial Sequence

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

<400> 8

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

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
            20                  25                  30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220
```

```
Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr
    370                 375                 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile Arg
                405                 410                 415

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
            420                 425                 430
```

```
Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly
        435                 440                 445

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser
    450                 455                 460

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

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His
                485                 490                 495

Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
            500                 505                 510

Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser
        515                 520                 525

Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser
    530                 535                 540

Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser
545                 550                 555                 560

Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser
                565                 570                 575

Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala
            580                 585                 590

Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala
        595                 600                 605

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

Glu Ile Cys
625
```

<210> 9
<211> 719

<212> PRT
<213> Artificial Sequence

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

<400> 9
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
100 105 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
115 120 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
130 135 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145 150 155 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
165 170 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
180 185 190

```
Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg
            340                 345                 350

Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    370                 375                 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400
```

```
Cys Gly Arg Lys Phe Ala Arg Ser Asp Asp Leu Val Arg His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu
                485                 490                 495

Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Arg
            500                 505                 510

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr Ser
        515                 520                 525

His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
    530                 535                 540

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu Val
545                 550                 555                 560

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
                565                 570                 575

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys
            580                 585                 590

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
        595                 600                 605

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
    610                 615                 620
```

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
625 630 635 640

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
645 650 655

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
660 665 670

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
675 680 685

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
690 695 700

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
705 710 715

<210> 10
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 10
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

```
Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285
```

```
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu
    290                 295                 300

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro
            340                 345                 350

Ala Asp Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg
    370                 375                 380

Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser
                485                 490                 495

Asp Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
            500                 505                 510
```

Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
515 520 525

Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
530 535 540

Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545 550 555 560

Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
565 570 575

Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
580 585 590

Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
595 600 605

Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
610 615 620

Pro Arg Thr Ile Glu Ile Cys
625 630

<210> 11
<211> 387
<212> PRT
<213> Artificial Sequence

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

<400> 11
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1 5 10 15

Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
20 25 30

Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
35 40 45

```
Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
    50                  55                  60

Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65                  70                  75                  80

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

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
            100                 105                 110

Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255
```

```
Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Gln
        275                 280                 285

Leu Ala His Leu Arg Ala His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Thr Ser Gly Asn Leu
305                 310                 315                 320

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu Lys Lys Ala Glu Lys Gly Gly Ala
        355                 360                 365

Pro Ser Ala Ser Ser Ala Pro Pro Val Ser Leu Ala Pro Val Val Thr
    370                 375                 380

Thr Cys Ala
385
```

<210> 12
<211> 473
<212> PRT
<213> Artificial Sequence

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

<400> 12

```
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1               5                   10                  15

Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
            20                  25                  30
```

```
Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
        35                  40                  45

Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
    50                  55                  60

Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65                  70                  75                  80

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

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
            100                 105                 110

Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255
```

```
Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285

Arg Asp Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Ser Arg Arg Thr Cys
305                 310                 315                 320

Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys
        355                 360                 365

Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Leu Arg Ile
    370                 375                 380

His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe
385                 390                 395                 400

Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly Glu
                405                 410                 415

Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala His Arg Thr
            420                 425                 430

Thr Leu Thr Asn His Ala Lys Ile His Leu Lys Gln Lys Glu Lys Lys
        435                 440                 445

Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val Ser
    450                 455                 460
```

Leu Ala Pro Val Val Thr Thr Cys Ala
465 470

<210> 13
<211> 473
<212> PRT
<213> Artificial Sequence

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

<400> 13
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1 5 10 15

Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
20 25 30

Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
35 40 45

Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
50 55 60

Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65 70 75 80

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

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
100 105 110

Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
115 120 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
130 135 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145 150 155 160

```
His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255

Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285

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

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn Leu
305                 310                 315                 320

His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys
        355                 360                 365

Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Leu Arg Ile
    370                 375                 380
```

```
His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe
385                 390                 395                 400


Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
                405                 410                 415


Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn Ser
            420                 425                 430


Thr Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu Lys Lys
        435                 440                 445


Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val Ser
    450                 455                 460


Leu Ala Pro Val Val Thr Thr Cys Ala
465                 470


<210> 14
<211> 473
<212> PRT
<213> Artificial Sequence

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

<400> 14
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1               5                   10                  15


Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
            20                  25                  30


Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
        35                  40                  45


Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
    50                  55                  60


Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65                  70                  75                  80
```

```
Lys Thr Val Thr Tyr Leu Gly Lys Phe Ala Phe Asp Ser Pro Ser Asn
                85                  90                  95

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
            100                 105                 110

Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255

Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285
```

```
Ser Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser His Arg Thr Thr Leu
305                 310                 315                 320

Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys
        355                 360                 365

Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr Glu His Leu Arg Ile
    370                 375                 380

His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe
385                 390                 395                 400

Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg Thr His Thr Gly Glu
                405                 410                 415

Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Glu Asp
            420                 425                 430

Asn Leu His Thr His Ala Lys Ile His Leu Lys Gln Lys Glu Lys Lys
        435                 440                 445

Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val Ser
    450                 455                 460

Leu Ala Pro Val Val Thr Thr Cys Ala
465                 470
```

<210> 15
<211> 559
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 15

```
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1               5                  10                  15

Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
            20                  25                  30

Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
        35                  40                  45

Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
    50                  55                  60

Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65                  70                  75                  80

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

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
            100                 105                 110

Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205
```

```
His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255

Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285

Arg Asp Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Ser Asp His Leu
305                 310                 315                 320

Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Asp Leu Val Arg His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys
        355                 360                 365

Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Leu Arg Ile
    370                 375                 380

His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe
385                 390                 395                 400

Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly Glu
                405                 410                 415
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Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Glu Asp
420 425 430

Asn Leu His Thr His Ala Lys Ile His Leu Lys Gln Lys Glu His Ala
435 440 445

Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Thr Ser His Ser Leu
450 455 460

Thr Glu His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln Cys Arg
465 470 475 480

Ile Cys Met Arg Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Ile
485 490 495

Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg
500 505 510

Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ala Lys Ile His Leu
515 520 525

Lys Gln Lys Glu Lys Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser
530 535 540

Ser Ala Pro Pro Val Ser Leu Ala Pro Val Val Thr Thr Cys Ala
545 550 555

<210> 16
<211> 473
<212> PRT
<213> Artificial Sequence

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

<400> 16
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1 5 10 15

Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
20 25 30

```
Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
        35                  40                  45

Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
    50                  55                  60

Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65                  70                  75                  80

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

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
            100                 105                 110

Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255
```

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Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Ser
        275                 280                 285

Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn Leu
305                 310                 315                 320

Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys
        355                 360                 365

Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg Ile
    370                 375                 380

His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe
385                 390                 395                 400

Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu
                405                 410                 415

Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp
            420                 425                 430

Asn Leu Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu Lys Lys
        435                 440                 445

Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val Ser
    450                 455                 460
```

Leu Ala Pro Val Val Thr Thr Cys Ala
465 470

<210> 17
<211> 88
<212> PRT
<213> Artificial Sequence

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

<400> 17
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1 5 10 15

Ser Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
20 25 30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu
35 40 45

Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr
65 70 75 80

Lys Ile His Leu Arg Gln Lys Asp
85

<210> 18
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 18
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr Gly
20 25 30

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Arg
        35                  40                  45


Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60


Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val
65                  70                  75                  80


Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln Arg
            100                 105                 110


Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
145                 150                 155                 160


Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 19
<211> 88
<212> PRT
<213> Artificial Sequence

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

<400> 19
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln
1               5                   10                  15


Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys Pro
            20                  25                  30
```

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn Leu
35 40 45

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His Thr
65 70 75 80

Lys Ile His Leu Arg Gln Lys Asp
85

<210> 20
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 20
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1 5 10 15

Arg Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro
20 25 30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys
35 40 45

Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Thr
65 70 75 80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
85 90 95

Ser Cys Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Ile
100 105 110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
115 120 125

Asn Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr
130 135 140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His
145 150 155 160

Arg Thr Thr Leu Thr Asn His Thr Lys Ile His Leu Arg Gln Lys Asp
165 170 175

<210> 21
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 21
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1 5 10 15

Arg Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro
20 25 30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys
35 40 45

Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Ile
65 70 75 80

Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg
85 90 95

Lys Phe Ser Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr
100 105 110

Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr
        115   120   125

Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro
    130   135   140

Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu
145   150   155   160

Thr Asn His Thr Lys Ile His Leu Arg Gln Lys Asp
                165   170

<210> 22
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 22
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1   5   10   15

Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
            20   25   30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu
        35   40   45

His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50   55   60

Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr
65   70   75   80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
                85   90   95

Ser Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile
            100   105   110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
115 120 125

Asn Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr
130 135 140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln
145 150 155 160

Asn Ser Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp
165 170 175

<210> 23
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 23
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1 5 10 15

Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
20 25 30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu
35 40 45

Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr
65 70 75 80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
85 90 95

Ser Cys Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr Glu His Ile
100 105 110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
        115   120   125

Asn Phe Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg Thr His Thr
    130   135   140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
145   150   155   160

Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
                165   170   175

<210> 24
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 24
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1   5   10   15

Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
            20   25   30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu
        35   40   45

Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50   55   60

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile
65   70   75   80

Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg
                85   90   95

Lys Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr
            100   105   110

Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln
        115   120   125

Ser Ser Ser Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro
    130   135   140

Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu
145   150   155   160

His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
                165   170

<210> 25
<211> 264
<212> PRT
<213> Artificial Sequence

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

<400> 25
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1   5   10   15

Arg Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro
            20   25   30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu
        35   40   45

Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50   55   60

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

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
                85   90   95

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

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
        115   120   125

Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr
    130   135   140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
145   150   155   160

Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
                165   170   175

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr
            180   185   190

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

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu
    210   215   220

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
225   230   235   240

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr
                245   250   255

Lys Ile His Leu Arg Gln Lys Asp
            260

<210> 26
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 26
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Ser
1   5   10   15

Pro Ala Asp Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
            20   25   30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp Ser Gly Asn Leu
        35   40   45

Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50   55   60

Ile Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Thr
65   70   75   80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
                85   90   95

Ser Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Ile
            100   105   110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
        115   120   125

Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr
    130   135   140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
145   150   155   160

Ser Asp Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
                165   170   175

<210> 27
<211> 87
<212> PRT
<213> Artificial Sequence

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

<400> 27
Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Gln Leu
1   5   10   15

Ala His Leu Arg Ala His Leu Arg Ile His Thr Gly His Lys Pro Phe
            20   25   30

Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Thr Ser Gly Asn Leu Val
        35   40   45

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe
    50   55   60

Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His Ala Lys
65   70   75   80

Ile His Leu Lys Gln Lys Glu
                85

<210> 28
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 28
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg Arg Asp
1   5   10   15

Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
            20   25   30

Cys Arg Ile Cys Met Arg Ser Phe Ser Ser Arg Arg Thr Cys Arg Ala
        35   40   45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
    50   55   60

Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Ala Lys Ile
65   70   75   80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
                85   90   95

```
Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Leu Arg Ile His Thr
            100                 105                 110


Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Thr
        115                 120                 125


Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro
    130                 135                 140


Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu
145                 150                 155                 160


Thr Asn His Ala Lys Ile His Leu Lys Gln Lys Glu
                165                 170


<210> 29
<211> 173
<212> PRT
<213> Artificial Sequence

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

<400> 29
Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg Ser
1               5                   10                  15


Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe
            20                  25                  30


Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn Leu His
        35                  40                  45


Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe
    50                  55                  60


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


Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp
                85                  90                  95
```

Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Leu Arg Ile His
100 105 110

Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser
115 120 125

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

Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr
145 150 155 160

Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu
165 170

<210> 30
<211> 173
<212> PRT
<213> Artificial Sequence

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

<400> 30
Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg Ser
1 5 10 15

Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe
20 25 30

Gln Cys Arg Ile Cys Met Arg Ser Phe Ser His Arg Thr Thr Leu Thr
35 40 45

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe
50 55 60

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ala Lys
65 70 75 80

Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp
85 90 95

Arg Arg Phe Ser Thr Ser His Ser Leu Thr Glu His Leu Arg Ile His
100 105 110

Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser
115 120 125

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

Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn
145 150 155 160

Leu His Thr His Ala Lys Ile His Leu Lys Gln Lys Glu
165 170

<210> 31
<211> 259
<212> PRT
<213> Artificial Sequence

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

<400> 31
Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg Arg
1 5 10 15

Asp Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys Pro Phe
20 25 30

Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Ser Asp His Leu Thr
35 40 45

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe
50 55 60

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

Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp
85 90 95

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

Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser
        115                 120                 125

His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly Glu Lys
    130                 135                 140

Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn
145                 150                 155                 160

Leu His Thr His Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys
                165                 170                 175

Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr
            180                 185                 190

Glu His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile
        195                 200                 205

Cys Met Arg Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg
    210                 215                 220

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys
225                 230                 235                 240

Phe Ala Arg Glu Asp Asn Leu His Thr His Ala Lys Ile His Leu Lys
                245                 250                 255

Gln Lys Glu
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<210> 32
<211> 173
<212> PRT
<213> Artificial Sequence

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

<400> 32
Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Ser Pro
1   5   10   15

Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe
            20   25   30

Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn Leu Arg
        35   40   45

Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe
    50   55   60

Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Ala Lys
65   70   75   80

Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp
                85   90   95

Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg Ile His
            100   105   110

Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser
        115   120   125

Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys
    130   135   140

Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn
145   150   155   160

Leu Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu
                165   170

<210> 33
<211> 18
<212> DNA
<213> Homo sapiens

<400> 33
agtgatagag aacgtatg   18

<210> 34
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<212> DNA
<213> Homo sapiens

<400> 34
agtgataga 9

<210> 35
<211> 18
<212> DNA
<213> Homo sapiens

<400> 35
ctaggtcaag tgtaggag 18

<210> 36
<211> 18
<212> DNA
<213> Homo sapiens

<400> 36
taggtaccat agagtgag 18

<210> 37
<211> 27
<212> DNA
<213> Homo sapiens

<400> 37
taggtaccat agagtgaggc gaggatg 27

<210> 38
<211> 18
<212> DNA
<213> Homo sapiens

<400> 38
gagtagaaaa gaaacaca 18

<210> 39
<211> 7
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<400> 39
Cys Xaa Cys Xaa His Xaa His
1   5

<210> 40
<211> 17
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

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<221> MOD_RES
<222> (8)..(10)
<223> Any amino acid

<220>
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<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<400> 40
Cys Xaa Cys Xaa Cys Xaa His Xaa Xaa Xaa Cys Xaa Cys Xaa Cys Xaa
1   5   10   15

Cys

<210> 41
<211> 17
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<220>
<221> MOD_RES
<222> (8)..(10)
<223> Any amino acid

<220>
<221> MOD_RES

<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<400> 41
Cys Xaa Cys Xaa Cys Xaa Cys Xaa Xaa Xaa His Xaa Cys Xaa Cys Xaa
1   5   10   15

Cys

<210> 42
<211> 15
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Any amino acid

<220>
<221> MOD_RES

<222> (10)..(10)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (15)..(15)
<223> Cys, His, or Asp

<400> 42
Cys Xaa Cys Xaa His Xaa Cys Xaa Cys Xaa Cys Xaa Cys Xaa Xaa
1   5   10   15

<210> 43
<211> 17
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<220>
<221> MOD_RES
<222> (8)..(10)
<223> Any amino acid

<220>

<221> MOD_RES
<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<400> 43
Cys Xaa Cys Xaa Cys Xaa Cys Xaa Xaa Xaa Cys Xaa Cys Xaa Cys Xaa
1   5   10   15

Cys

<210> 44
<211> 7
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<400> 44
Cys Xaa Cys Xaa Cys Xaa His
1   5

<210> 45

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

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<400> 45
Cys Xaa Cys Xaa His Xaa Cys
1 5

<210> 46
<211> 17
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<220>
<221> MOD_RES
<222> (8)..(10)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<400> 46
Cys Xaa Cys Xaa His Xaa Cys Xaa Xaa Xaa Cys Xaa Cys Xaa His Xaa
1   5   10   15

Cys

<210> 47
<211> 17
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<220>
<221> MOD_RES
<222> (8)..(10)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<400> 47
Cys Xaa Cys Xaa Cys Xaa Cys Xaa Xaa Xaa Cys Xaa Cys Xaa His Xaa
1   5   10   15

Cys

<210> 48
<211> 7
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<400> 48
Cys Xaa Cys Xaa Cys Xaa Cys
1   5

<210> 49
<211> 17
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Any amino acid

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

<220>
<221> MOD_RES
<222> (8)..(10)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<400> 49
Cys Xaa Cys Xaa Cys Xaa Cys Xaa Xaa Xaa Cys Xaa His Xaa His Xaa
1   5   10   15

Cys

<210> 50
<211> 220
<212> PRT
<213> Artificial Sequence

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

<400> 50
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
50 55 60

Arg Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
165 170 175

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
195 200 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
210 215 220

<210> 51
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 51
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
50 55 60

Arg Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln
        115   120   125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130   135   140

Ser Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr
145   150   155   160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
                165   170   175

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr
            180   185   190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195   200   205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210   215   220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225   230   235   240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
                245   250   255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
            260   265   270

<210> 52
<211> 497
<212> PRT
<213> Artificial Sequence

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

<400> 52
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1   5   10   15

```
Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30

Ser Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
    50                  55                  60

Arg Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu
                85                  90                  95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
                165                 170                 175

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Met Ser
    210                 215                 220

Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe
```

```
225                 230                 235                 240

Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg Met Gly
                245                 250                 255

Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln
            260                 265                 270

His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly
        275                 280                 285

Asn Met Asn Ala Thr Ser Gly Ile Arg His Ala Met Gly Pro Gly Thr
    290                 295                 300

Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe
305                 310                 315                 320

Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser
                325                 330                 335

Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn
            340                 345                 350

His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala
        355                 360                 365

Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn
    370                 375                 380

Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser
385                 390                 395                 400

Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser
                405                 410                 415

Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val
            420                 425                 430

Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp
        435                 440                 445
```

Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu
    450   455   460

Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe
465   470   475   480

Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser
                485   490   495

Cys

<210> 53
<211> 406
<212> PRT
<213> Artificial Sequence

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

<400> 53
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1   5   10   15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20   25   30

Ser Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr
        35   40   45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
    50   55   60

Arg Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro
65   70   75   80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu
                85   90   95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100   105   110

```
Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
                165                 170                 175

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Met Ala
    210                 215                 220

Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro
225                 230                 235                 240

Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro
                245                 250                 255

Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro
            260                 265                 270

Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala
        275                 280                 285

Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro
    290                 295                 300

Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly
305                 310                 315                 320

Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln
```

325 330 335

Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala Leu Gly
340 345 350

Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu
355 360 365

Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu
370 375 380

Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro
385 390 395 400

Ala Gly Ser Val Ser Cys
405

<210> 54
<211> 597
<212> PRT
<213> Artificial Sequence

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

<400> 54
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro

```
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala Ala
        195                 200                 205

Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
    210                 215                 220

Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr Gly
225                 230                 235                 240

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Arg
                245                 250                 255

Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
            260                 265                 270

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val
        275                 280                 285

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
    290                 295                 300
```

```
Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln Arg
305                 310                 315                 320

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
                325                 330                 335

Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr Gly
            340                 345                 350

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
        355                 360                 365

Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
    370                 375                 380

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
385                 390                 395                 400

Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Met Ala Asp
                405                 410                 415

His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro Ser
            420                 425                 430

Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr
        435                 440                 445

Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu
    450                 455                 460

Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe
465                 470                 475                 480

Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala
                485                 490                 495

Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg
            500                 505                 510

Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro
```

515 520 525

Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala Leu Gly Gly
530 535 540

Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu
545 550 555 560

Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly
565 570 575

Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala
580 585 590

Gly Ser Val Ser Cys
595

<210> 55
<211> 479
<212> PRT
<213> Artificial Sequence

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

<400> 55
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn Val His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg Thr His
65 70 75 80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala

```
                85                  90                  95

Gln Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
            100                 105                 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
        115                 120                 125

Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
    130                 135                 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn
145                 150                 155                 160

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                165                 170                 175

Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His
            180                 185                 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ser Gly Leu
        195                 200                 205

Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Ile Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
    290                 295                 300
```

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305 310 315 320

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
325 330 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
340 345 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
355 360 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
370 375 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385 390 395 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
405 410 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
420 425 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
435 440 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
450 455 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465 470 475

<210> 56
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 56
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1   5   10   15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
            20   25   30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
        35   40   45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
    50   55   60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65   70   75   80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
                85   90   95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
            100   105   110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
        115   120   125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130   135   140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145   150   155   160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165   170   175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180   185   190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195   200   205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp

```
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr
        275                 280                 285

Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys
    290                 295                 300

Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn
305                 310                 315                 320

Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile
                325                 330                 335

Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg
            340                 345                 350

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
        355                 360                 365

Phe Ala Gln Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg
    370                 375                 380

Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg
385                 390                 395                 400

Phe Ser Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly
                405                 410                 415

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
            420                 425                 430
```

Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
435 440 445

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr
450 455 460

Asn His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
465 470 475

<210> 57
<211> 479
<212> PRT
<213> Artificial Sequence

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

<400> 57
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

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

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
100 105 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
115 120 125

```
Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
    130                 135                 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His
145                 150                 155                 160

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                165                 170                 175

Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His
            180                 185                 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ser Gly Leu
        195                 200                 205

Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Ile Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
    290                 295                 300

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305                 310                 315                 320

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
                325                 330                 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
```

340 345 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
355 360 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
370 375 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385 390 395 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
405 410 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
420 425 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
435 440 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
450 455 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465 470 475

<210> 58
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 58
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
20 25 30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln

```
        35                  40                  45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
    50                  55                  60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65                  70                  75                  80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
                85                  90                  95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
            100                 105                 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
        115                 120                 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255
```

```
Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr
        275                 280                 285

Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys
    290                 295                 300

Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val
305                 310                 315                 320

Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile
                325                 330                 335

Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg
            340                 345                 350

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
        355                 360                 365

Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg
    370                 375                 380

Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg
385                 390                 395                 400

Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly
                405                 410                 415

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
            420                 425                 430

Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
        435                 440                 445

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

Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
```

465 470 475

<210> 59
<211> 479
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (278)..(278)
<223> Ile or Val

<400> 59
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala Asp Leu Thr Arg His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val His Ile Arg Thr His
65 70 75 80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

Gln Leu Ala His Leu Arg Ala His Thr Lys Ile His Leu Arg Gln Lys
100 105 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
115 120 125

Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
130 135 140

```
Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn
145                 150                 155                 160

Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                165                 170                 175

Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu Val Arg His
            180                 185                 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ser Gly Leu
        195                 200                 205

Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Xaa Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
    290                 295                 300

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305                 310                 315                 320

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
                325                 330                 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
            340                 345                 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
```

```
        355                 360                 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
    370                 375                 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385                 390                 395                 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
                405                 410                 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
            420                 425                 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
        435                 440                 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
    450                 455                 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465                 470                 475
```

<210> 60
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 60

```
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1               5                   10                  15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
            20                  25                  30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
        35                  40                  45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
```

```
    50                  55                  60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65                  70                  75                  80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
                85                  90                  95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
            100                 105                 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
        115                 120                 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270
```

```
Val Ser Cys Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr
        275                 280                 285

Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys
    290                 295                 300

Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn
305                 310                 315                 320

Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile
                325                 330                 335

Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg
            340                 345                 350

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
        355                 360                 365

Phe Ala Gln Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg
    370                 375                 380

Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg
385                 390                 395                 400

Phe Ser Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly
                405                 410                 415

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
            420                 425                 430

Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
        435                 440                 445

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr
    450                 455                 460

Asn His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
465                 470                 475
```

<210> 61

<211> 388
<212> PRT
<213> Artificial Sequence

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

<400> 61
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

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

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
100 105 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
115 120 125

Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
130 135 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His
145 150 155 160

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
165 170 175

Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His

```
            180                 185                 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ala Asp His
        195                 200                 205

Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro Ser Ala
    210                 215                 220

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
225                 230                 235                 240

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
                245                 250                 255

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
            260                 265                 270

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
        275                 280                 285

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
    290                 295                 300

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
305                 310                 315                 320

Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala Leu Gly Gly Met
                325                 330                 335

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
            340                 345                 350

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
        355                 360                 365

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
    370                 375                 380

Ser Val Ser Cys
385
```

<210> 62
<211> 580
<212> PRT
<213> Artificial Sequence

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

<400> 62
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
85 90 95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
100 105 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
115 120 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
130 135 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145 150 155 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
165 170 175

```
Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225                 230                 235                 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                245                 250                 255

Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His
            260                 265                 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        275                 280                 285

Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
    290                 295                 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305                 310                 315                 320

Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
                325                 330                 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His
            340                 345                 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
        355                 360                 365

Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His
    370                 375                 380

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ala Asp His
```

385 390 395 400

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

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
420 425 430

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
435 440 445

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
450 455 460

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
465 470 475 480

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
485 490 495

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
500 505 510

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

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
530 535 540

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
545 550 555 560

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
565 570 575

Ser Val Ser Cys
580

<210> 63
<211> 388
<212> PRT

<213> Artificial Sequence

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

<400> 63
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala Asp Leu Thr Arg His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val His Ile Arg Thr His
65 70 75 80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

Gln Leu Ala His Leu Arg Ala His Thr Lys Ile His Leu Arg Gln Lys
100 105 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
115 120 125

Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
130 135 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn
145 150 155 160

Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
165 170 175

Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu Val Arg His
180 185 190

```
Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ala Asp His
        195                 200                 205

Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro Ser Ala
    210                 215                 220

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
225                 230                 235                 240

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
                245                 250                 255

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
            260                 265                 270

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
        275                 280                 285

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
    290                 295                 300

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
305                 310                 315                 320

Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala Leu Gly Gly Met
                325                 330                 335

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
            340                 345                 350

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
        355                 360                 365

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
    370                 375                 380

Ser Val Ser Cys
385
```

<210> 64

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

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

<400> 64
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
85 90 95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
100 105 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
115 120 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
130 135 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145 150 155 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
165 170 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser

```
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala Asp Leu Thr Arg His
225                 230                 235                 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                245                 250                 255

Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val His Ile Arg Thr His
            260                 265                 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        275                 280                 285

Gln Leu Ala His Leu Arg Ala His Thr Lys Ile His Leu Arg Gln Lys
    290                 295                 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305                 310                 315                 320

Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
                325                 330                 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn
            340                 345                 350

Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
        355                 360                 365

Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu Val Arg His
    370                 375                 380

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ala Asp His
385                 390                 395                 400
```

```
Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro Ser Ala
                405                 410                 415

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
            420                 425                 430

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
        435                 440                 445

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
    450                 455                 460

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
465                 470                 475                 480

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
                485                 490                 495

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
            500                 505                 510

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

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
    530                 535                 540

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
545                 550                 555                 560

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
                565                 570                 575

Ser Val Ser Cys
            580
```

<210> 65
<211> 388
<212> PRT
<213> Artificial Sequence

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

<400> 65
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn Val His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg Thr His
65 70 75 80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

Gln Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
100 105 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
115 120 125

Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
130 135 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn
145 150 155 160

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
165 170 175

Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His
180 185 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ala Asp His

195 200 205

Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro Ser Ala
210 215 220

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
225 230 235 240

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
245 250 255

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
260 265 270

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
275 280 285

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
290 295 300

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
305 310 315 320

Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala Leu Gly Gly Met
325 330 335

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
340 345 350

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
355 360 365

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
370 375 380

Ser Val Ser Cys
385

<210> 66
<211> 580
<212> PRT

<213> Artificial Sequence

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

<400> 66
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
85 90 95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
100 105 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
115 120 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
130 135 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145 150 155 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
165 170 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
180 185 190

```
Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn Val His
225                 230                 235                 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                245                 250                 255

Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg Thr His
            260                 265                 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        275                 280                 285

Gln Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
    290                 295                 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305                 310                 315                 320

Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
                325                 330                 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn
            340                 345                 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
        355                 360                 365

Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His
    370                 375                 380

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

Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg Pro Pro Ser Ala
```

405 410 415

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
420 425 430

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
435 440 445

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
450 455 460

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
465 470 475 480

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
485 490 495

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
500 505 510

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

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
530 535 540

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
545 550 555 560

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
565 570 575

Ser Val Ser Cys
580

<210> 67
<211> 580
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 67

```
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1               5                  10                  15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
            20                  25                  30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35                  40                  45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50                  55                  60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205
```

```
Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225                 230                 235                 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                245                 250                 255

Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His
            260                 265                 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        275                 280                 285

Arg Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys
    290                 295                 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305                 310                 315                 320

Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
                325                 330                 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser
            340                 345                 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
        355                 360                 365

Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His
    370                 375                 380

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

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

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
```

420 425 430

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
435 440 445

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
450 455 460

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
465 470 475 480

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
485 490 495

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
500 505 510

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

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
530 535 540

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
545 550 555 560

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
565 570 575

Ser Val Ser Cys
580

<210> 68
<211> 394
<212> PRT
<213> Artificial Sequence

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

<400> 68
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln

```
1               5                   10                  15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
            20                  25                  30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35                  40                  45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50                  55                  60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220
```

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225 230 235 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
245 250 255

Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His
260 265 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
275 280 285

Arg Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys
290 295 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305 310 315 320

Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
325 330 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser
340 345 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
355 360 365

Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His
370 375 380

Thr Lys Ile His Leu Arg Gln Lys Asp Lys
385 390

<210> 69
<211> 394
<212> PRT
<213> Artificial Sequence

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

<400> 69
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1   5   10   15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
            20   25   30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35   40   45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50   55   60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65   70   75   80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85   90   95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100   105   110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115   120   125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130   135   140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145   150   155   160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165   170   175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180   185   190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195   200   205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val

210 215 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225 230 235 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
245 250 255

Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His
260 265 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
275 280 285

Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
290 295 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305 310 315 320

Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
325 330 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His
340 345 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
355 360 365

Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His
370 375 380

Thr Lys Ile His Leu Arg Gln Lys Asp Lys
385 390

<210> 70
<211> 479
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 70

```
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1               5                   10                  15

Arg Ser Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys
            20                  25                  30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn
        35                  40                  45

Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
    50                  55                  60

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

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
                85                  90                  95

Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Leu Arg
            100                 105                 110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
        115                 120                 125

Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn
145                 150                 155                 160

Ser Thr Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
                165                 170                 175

Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val
            180                 185                 190

Ser Leu Ala Pro Val Val Thr Thr Cys Ala Leu Glu Met Ser Gly Leu
        195                 200                 205
```

```
Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Ile Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
    290                 295                 300

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305                 310                 315                 320

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
                325                 330                 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
            340                 345                 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
        355                 360                 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
    370                 375                 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385                 390                 395                 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
                405                 410                 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
```

420 425 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
435 440 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
450 455 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465 470 475

<210> 71
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 71
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
20 25 30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
35 40 45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
50 55 60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65 70 75 80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
85 90 95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
100 105 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr

```
        115                 120                 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg
        275                 280                 285

Phe Ser Arg Ser Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly
    290                 295                 300

His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu
305                 310                 315                 320

Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
                325                 330                 335
```

Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val
            340   345   350

Arg His Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala
        355   360   365

Glu Gly Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His
    370   375   380

Leu Arg Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met
385   390   395   400

Arg Ser Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His
                405   410   415

Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala
            420   425   430

Gln Asn Ser Thr Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys
        435   440   445

Glu Lys Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro
    450   455   460

Pro Val Ser Leu Ala Pro Val Val Thr Thr Cys Ala
465   470   475

<210> 72
<211> 479
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (278)..(278)
<223> Ile or Val

<400> 72
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser

```
1               5                   10                  15

Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys
            20                  25                  30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn
        35                  40                  45

Leu Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
    50                  55                  60

Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His
65                  70                  75                  80

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
                85                  90                  95

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg
            100                 105                 110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
        115                 120                 125

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
    130                 135                 140

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

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

Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val
            180                 185                 190

Ser Leu Ala Pro Val Val Thr Thr Cys Ala Leu Glu Met Ser Gly Leu
        195                 200                 205

Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220
```

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Xaa Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
    290                 295                 300

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305                 310                 315                 320

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
                325                 330                 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
            340                 345                 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
        355                 360                 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
    370                 375                 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385                 390                 395                 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
                405                 410                 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
            420                 425                 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
```

435 440 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
450 455 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465 470 475

<210> 73
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 73
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
20 25 30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
35 40 45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
50 55 60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65 70 75 80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
85 90 95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
100 105 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
115 120 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His

```
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg
        275                 280                 285

Phe Ser Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly
    290                 295                 300

His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser
305                 310                 315                 320

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

Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg
            340                 345                 350
```

Ala His Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala
        355   360   365

Glu Gly Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His
    370   375   380

Leu Arg Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met
385   390   395   400

Arg Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His
                405   410   415

Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala
            420   425   430

Arg Ser Asp Asn Leu Val Arg His Ala Lys Ile His Leu Lys Gln Lys
        435   440   445

Glu Lys Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro
    450   455   460

Pro Val Ser Leu Ala Pro Val Val Thr Thr Cys Ala
465   470   475

<210> 74
<211> 362
<212> PRT
<213> Artificial Sequence

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

<400> 74
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1   5   10   15

Arg Ser Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys
            20   25   30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn
        35   40   45

```
Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
    50                  55                  60

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

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
                85                  90                  95

Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Leu Arg
            100                 105                 110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
        115                 120                 125

Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn
145                 150                 155                 160

Ser Thr Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
                165                 170                 175

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
            180                 185                 190

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
        195                 200                 205

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
    210                 215                 220

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
225                 230                 235                 240

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
                245                 250                 255

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
```

260 265 270

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
275 280 285

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
290 295 300

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
305 310 315 320

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
325 330 335

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
340 345 350

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
355 360

<210> 75
<211> 554
<212> PRT
<213> Artificial Sequence

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

<400> 75
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val

```
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
        195                 200                 205

Arg Ser Asp Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys
    210                 215                 220

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn
225                 230                 235                 240

Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                245                 250                 255

Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His
            260                 265                 270

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
        275                 280                 285
```

```
Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Leu Arg
    290                 295                 300

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
305                 310                 315                 320

Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly
                325                 330                 335

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn
            340                 345                 350

Ser Thr Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
        355                 360                 365

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
    370                 375                 380

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
385                 390                 395                 400

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
                405                 410                 415

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
            420                 425                 430

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
        435                 440                 445

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
    450                 455                 460

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
465                 470                 475                 480

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
                485                 490                 495

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
```

500 505 510

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
515 520 525

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
530 535 540

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
545 550

<210> 76
<211> 362
<212> PRT
<213> Artificial Sequence

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

<400> 76
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1 5 10 15

Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys
20 25 30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn
35 40 45

Leu Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
50 55 60

Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His
65 70 75 80

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
85 90 95

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg
100 105 110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser

```
        115                 120                 125

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
    130                 135                 140

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

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

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
            180                 185                 190

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
        195                 200                 205

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
    210                 215                 220

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
225                 230                 235                 240

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
                245                 250                 255

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
            260                 265                 270

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
        275                 280                 285

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
    290                 295                 300

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
305                 310                 315                 320

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
                325                 330                 335
```

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
340 345 350

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
355 360

<210> 77
<211> 554
<212> PRT
<213> Artificial Sequence

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

<400> 77
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
85 90 95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
100 105 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
115 120 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
130 135 140

```
Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
        195                 200                 205

Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys
    210                 215                 220

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn
225                 230                 235                 240

Leu Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                245                 250                 255

Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His
            260                 265                 270

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
        275                 280                 285

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg
    290                 295                 300

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
305                 310                 315                 320

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
                325                 330                 335

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
```

```
        355                 360                 365

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
    370                 375                 380

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
385                 390                 395                 400

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
                405                 410                 415

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
            420                 425                 430

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
        435                 440                 445

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
    450                 455                 460

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
465                 470                 475                 480

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
                485                 490                 495

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
            500                 505                 510

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
        515                 520                 525

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
    530                 535                 540

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
545                 550

<210> 78
<211> 453
<212> PRT
```

<213> Artificial Sequence

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

<400> 78
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1 5 10 15

Arg Arg Asp Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys
20 25 30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Ser Arg Arg Thr
35 40 45

Cys Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
50 55 60

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

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
85 90 95

Cys Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Leu Arg
100 105 110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
115 120 125

Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala His Arg
145 150 155 160

Thr Thr Leu Thr Asn His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
165 170 175

Leu Glu Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn
180 185 190

```
His Gly Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala
        195                 200                 205

His Arg Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln
    210                 215                 220

Gln Gln Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His
225                 230                 235                 240

Tyr Gly Ala Gly Asn Met Asn Ala Thr Ser Gly Ile Arg His Ala Met
                245                 250                 255

Gly Pro Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro
            260                 265                 270

Ala Ala Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser
        275                 280                 285

Gln Gly Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn
    290                 295                 300

Gln Tyr Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp
305                 310                 315                 320

Leu His Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe
                325                 330                 335

Arg Asp Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly
            340                 345                 350

Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly
        355                 360                 365

Gly Ala Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met
    370                 375                 380

Pro Ala Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val
385                 390                 395                 400

Ile Asp Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile
```

405 410 415

Glu Met Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly
420 425 430

Gln Asn Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro
435 440 445

Ser Arg Val Ser Cys
450

<210> 79
<211> 554
<212> PRT
<213> Artificial Sequence

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

<400> 79
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
85 90 95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
100 105 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His

```
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
        195                 200                 205

Arg Arg Asp Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys
    210                 215                 220

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Ser Arg Arg Thr
225                 230                 235                 240

Cys Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                245                 250                 255

Glu Phe Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His
            260                 265                 270

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
        275                 280                 285

Cys Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Leu Arg
    290                 295                 300

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
305                 310                 315                 320

Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly
                325                 330                 335
```

```
Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala His Arg
            340                 345                 350

Thr Thr Leu Thr Asn His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
        355                 360                 365

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
    370                 375                 380

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
385                 390                 395                 400

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
                405                 410                 415

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
            420                 425                 430

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
        435                 440                 445

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
    450                 455                 460

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
465                 470                 475                 480

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
                485                 490                 495

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
            500                 505                 510

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
        515                 520                 525

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
    530                 535                 540

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

545 550

<210> 80
<211> 362
<212> PRT
<213> Artificial Sequence

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

<400> 80
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1 5 10 15

Arg Arg Asp Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys
20 25 30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Ser Arg Arg Thr
35 40 45

Cys Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
50 55 60

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

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
85 90 95

Cys Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Leu Arg
100 105 110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
115 120 125

Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala His Arg
145 150 155 160

Thr Thr Leu Thr Asn His Ala Lys Ile His Leu Lys Gln Lys Glu Lys

```
                165                 170                 175

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
            180                 185                 190

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
        195                 200                 205

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
    210                 215                 220

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
225                 230                 235                 240

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
                245                 250                 255

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
            260                 265                 270

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
        275                 280                 285

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
    290                 295                 300

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
305                 310                 315                 320

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
                325                 330                 335

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
            340                 345                 350

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
        355                 360

<210> 81
<211> 176
<212> PRT
```

<213> Artificial Sequence

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

<400> 81
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Arg
35 40 45

Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val
65 70 75 80

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
145 150 155 160

Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 82
<211> 202
<212> PRT

<213> Artificial Sequence

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

<400> 82
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn Val His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

Arg Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg Thr His
65 70 75 80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

Gln Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
100 105 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
115 120 125

Gln Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
130 135 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn
145 150 155 160

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
165 170 175

Asp Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His
180 185 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys
195 200

<210> 83
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 83
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1 5 10 15

Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
20 25 30

Ser Cys Asp Arg Arg Phe Ser Arg Arg Asp Glu Leu Asn Val His Ile
35 40 45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
50 55 60

Asn Phe Ser Ser Arg Arg Thr Cys Arg Ala His Ile Arg Thr His Thr
65 70 75 80

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln
85 90 95

Ser Ser Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
100 105 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln
115 120 125

Leu Ala His Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys Pro
130 135 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly Asn Leu
145 150 155 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
165 170 175

Ile Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu Thr Asn His Thr
180 185 190

Lys Ile His Leu Arg Gln Lys Asp Lys
195 200

<210> 84
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 84
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1 5 10 15

Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
20 25 30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu
35 40 45

His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr
65 70 75 80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
85 90 95

Ser Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile
100 105 110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
115 120 125

Asn Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr
130 135 140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln
145 150 155 160

Asn Ser Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp
165 170 175

<210> 85
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 85
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1 5 10 15

Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
20 25 30

Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile
35 40 45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
50 55 60

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

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
85 90 95

Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
100 105 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln
115 120 125

Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro
130 135 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His Leu
145 150 155 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
165 170 175

Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His Thr
180 185 190

Lys Ile His Leu Arg Gln Lys Asp Lys
195 200

<210> 86
<211> 202
<212> PRT
<213> Artificial Sequence

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

<400> 86
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala Asp Leu Thr Arg His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val His Ile Arg Thr His
65 70 75 80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
85 90 95

```
Gln Leu Ala His Leu Arg Ala His Thr Lys Ile His Leu Arg Gln Lys
            100                 105                 110


Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
        115                 120                 125


Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
    130                 135                 140


Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn
145                 150                 155                 160


Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                165                 170                 175


Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu Val Arg His
            180                 185                 190


Thr Lys Ile His Leu Arg Gln Lys Asp Lys
        195                 200


<210> 87
<211> 177
<212> PRT
<213> Artificial Sequence

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

<400> 87
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1               5                   10                  15


Arg Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro
            20                  25                  30


Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Ser Arg Arg Thr Cys
        35                  40                  45


Arg Ala His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50                  55                  60
```

```
Ile Cys Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Thr
65                  70                  75                  80


Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
                85                  90                  95


Ser Cys Asp Arg Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Ile
            100                 105                 110


Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
        115                 120                 125


Asn Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr
    130                 135                 140


Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala His
145                 150                 155                 160


Arg Thr Thr Leu Thr Asn His Thr Lys Ile His Leu Arg Gln Lys Asp
                165                 170                 175


Lys
```

<210> 88
<211> 177
<212> PRT
<213> Artificial Sequence

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

<400> 88

```
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg
1               5                   10                  15


Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
            20                  25                  30


Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu
        35                  40                  45
```

```
His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50                  55                  60

Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr
65                  70                  75                  80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
                85                  90                  95

Ser Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile
            100                 105                 110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
        115                 120                 125

Asn Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr
    130                 135                 140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln
145                 150                 155                 160

Asn Ser Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp
                165                 170                 175

Lys
```

<210> 89
<211> 177
<212> PRT
<213> Artificial Sequence

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

<400> 89

```
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Ser
1               5                   10                  15

Pro Ala Asp Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
            20                  25                  30
```

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp Ser Gly Asn Leu
35 40 45

Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
50 55 60

Ile Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Thr
65 70 75 80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
85 90 95

Ser Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Ile
100 105 110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
115 120 125

Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr
130 135 140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
145 150 155 160

Ser Asp Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
165 170 175

Lys

<210> 90
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 90
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1 5 10 15

```
Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
            20                  25                  30

Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile
        35                  40                  45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
    50                  55                  60

Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr
65                  70                  75                  80

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
                85                  90                  95

Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
            100                 105                 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr
        115                 120                 125

Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro
    130                 135                 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu
145                 150                 155                 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
                165                 170                 175

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr
            180                 185                 190

Lys Ile His Leu Arg Gln Lys Asp Lys
        195                 200
```

<210> 91
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 91
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1 5 10 15

Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
20 25 30

Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile
35 40 45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
50 55 60

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

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
85 90 95

Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
100 105 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln
115 120 125

Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro
130 135 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His Leu
145 150 155 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
165 170 175

Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His Thr
180 185 190

Lys Ile His Leu Arg Gln Lys Asp Lys

195 200

<210> 92
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 92
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg Ser Asp
1 5 10 15

Asn Leu Val Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
20 25 30

Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn Leu His Thr
35 40 45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
50 55 60

Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ala Lys Ile
65 70 75 80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
85 90 95

Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Leu Arg Ile His Thr
100 105 110

Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Thr
115 120 125

Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro
130 135 140

Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu
145 150 155 160

Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu

165 170

<210> 93
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 93
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Ser Pro Ala
1 5 10 15

Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
20 25 30

Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn Leu Arg Val
35 40 45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
50 55 60

Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Ala Lys Ile
65 70 75 80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
85 90 95

Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg Ile His Thr
100 105 110

Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg
115 120 125

Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro
130 135 140

Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu
145 150 155 160

Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu

165 170

<210> 94
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 94
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg Arg Asp
1 5 10 15

Glu Leu Asn Val His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
20 25 30

Cys Arg Ile Cys Met Arg Ser Phe Ser Ser Arg Arg Thr Cys Arg Ala
35 40 45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
50 55 60

Gly Arg Lys Phe Ala Gln Ser Ser Asn Leu Val Arg His Ala Lys Ile
65 70 75 80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
85 90 95

Arg Phe Ser Gln Leu Ala His Leu Arg Ala His Leu Arg Ile His Thr
100 105 110

Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Thr
115 120 125

Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro
130 135 140

Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala His Arg Thr Thr Leu
145 150 155 160

Thr Asn His Ala Lys Ile His Leu Lys Gln Lys Glu

165 170

<210> 95
<211> 50
<212> PRT
<213> Artificial Sequence

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

<400> 95
Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
1 5 10 15

Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe
20 25 30

Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp
35 40 45

Met Leu
50

<210> 96
<211> 275
<212> PRT
<213> Artificial Sequence

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

<400> 96
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
20 25 30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
35 40 45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
50 55 60

```
Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65                  70                  75                  80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
                85                  90                  95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
            100                 105                 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
        115                 120                 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys
```

275

<210> 97
<211> 184
<212> PRT
<213> Artificial Sequence

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

<400> 97
Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg
1 5 10 15

Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu
20 25 30

Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly
35 40 45

Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr
50 55 60

Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro
65 70 75 80

Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr
85 90 95

Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly
100 105 110

Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala
115 120 125

Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser
130 135 140

Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu
145 150 155 160

Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala

165 170 175

Pro Pro Ala Gly Ser Val Ser Cys
180

<210> 98
<211> 274
<212> PRT
<213> Artificial Sequence

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

<400> 98
Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg
1 5 10 15

Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg Met
20 25 30

Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro
35 40 45

Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala
50 55 60

Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro Gly
65 70 75 80

Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg
85 90 95

Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly
100 105 110

Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe
115 120 125

Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro
130 135 140

Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys

145 150 155 160

Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly
165 170 175

Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly
180 185 190

Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser
195 200 205

Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr
210 215 220

Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly
225 230 235 240

Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu
245 250 255

Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val
260 265 270

Ser Cys

<210> 99
<211> 275
<212> PRT
<213> Artificial Sequence

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

<400> 99
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
20 25 30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln

```
        35                  40                  45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
    50                  55                  60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65                  70                  75                  80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
                85                  90                  95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
            100                 105                 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
        115                 120                 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255
```

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
260 265 270

Val Ser Cys
275

<210> 100
<211> 184
<212> PRT
<213> Artificial Sequence

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

<400> 100
Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg
1 5 10 15

Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu
20 25 30

Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly
35 40 45

Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr
50 55 60

Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro
65 70 75 80

Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr
85 90 95

Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly
100 105 110

Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala
115 120 125

Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser
130 135 140

Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu
145 150 155 160

Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala
165 170 175

Pro Pro Ala Gly Ser Val Ser Cys
180

<210> 101

<400> 101
000

<210> 102
<211> 76
<212> DNA
<213> Artificial Sequence

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

<400> 102
gttttagtac tctggaaaca gaatctacta aaacaaggca aaatgccgtg tttatctcgt 60

caacttgttg gcgaga 76

<210> 103
<211> 1052
<212> PRT
<213> Artificial Sequence

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

<400> 103
Lys Arg Asn Tyr Ile Leu Gly Leu Ala Ile Gly Ile Thr Ser Val Gly
1 5 10 15

Tyr Gly Ile Ile Asp Tyr Glu Thr Arg Asp Val Ile Asp Ala Gly Val
20 25 30

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

```
Lys Arg Gly Ala Arg Arg Leu Lys Arg Arg Arg Arg His Arg Ile Gln
    50                  55                  60

Arg Val Lys Lys Leu Leu Phe Asp Tyr Asn Leu Leu Thr Asp His Ser
65                  70                  75                  80

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

Gln Lys Leu Ser Glu Glu Glu Phe Ser Ala Ala Leu Leu His Leu Ala
            100                 105                 110

Lys Arg Arg Gly Val His Asn Val Asn Glu Val Glu Glu Asp Thr Gly
        115                 120                 125

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

Glu Glu Lys Tyr Val Ala Glu Leu Gln Leu Glu Arg Leu Lys Lys Asp
145                 150                 155                 160

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

Lys Glu Ala Lys Gln Leu Leu Lys Val Gln Lys Ala Tyr His Gln Leu
            180                 185                 190

Asp Gln Ser Phe Ile Asp Thr Tyr Ile Asp Leu Leu Glu Thr Arg Arg
        195                 200                 205

Thr Tyr Tyr Glu Gly Pro Gly Glu Gly Ser Pro Phe Gly Trp Lys Asp
    210                 215                 220

Ile Lys Glu Trp Tyr Glu Met Leu Met Gly His Cys Thr Tyr Phe Pro
225                 230                 235                 240

Glu Glu Leu Arg Ser Val Lys Tyr Ala Tyr Asn Ala Asp Leu Tyr Asn
                245                 250                 255
```

```
Ala Leu Asn Asp Leu Asn Asn Leu Val Ile Thr Arg Asp Glu Asn Glu
            260                 265                 270

Lys Leu Glu Tyr Tyr Glu Lys Phe Gln Ile Ile Glu Asn Val Phe Lys
        275                 280                 285

Gln Lys Lys Lys Pro Thr Leu Lys Gln Ile Ala Lys Glu Ile Leu Val
    290                 295                 300

Asn Glu Glu Asp Ile Lys Gly Tyr Arg Val Thr Ser Thr Gly Lys Pro
305                 310                 315                 320

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

Arg Lys Glu Ile Ile Glu Asn Ala Glu Leu Leu Asp Gln Ile Ala Lys
            340                 345                 350

Ile Leu Thr Ile Tyr Gln Ser Ser Glu Asp Ile Gln Glu Glu Leu Thr
        355                 360                 365

Asn Leu Asn Ser Glu Leu Thr Gln Glu Glu Ile Glu Gln Ile Ser Asn
    370                 375                 380

Leu Lys Gly Tyr Thr Gly Thr His Asn Leu Ser Leu Lys Ala Ile Asn
385                 390                 395                 400

Leu Ile Leu Asp Glu Leu Trp His Thr Asn Asp Asn Gln Ile Ala Ile
                405                 410                 415

Phe Asn Arg Leu Lys Leu Val Pro Lys Lys Val Asp Leu Ser Gln Gln
            420                 425                 430

Lys Glu Ile Pro Thr Thr Leu Val Asp Asp Phe Ile Leu Ser Pro Val
        435                 440                 445

Val Lys Arg Ser Phe Ile Gln Ser Ile Lys Val Ile Asn Ala Ile Ile
    450                 455                 460

Lys Lys Tyr Gly Leu Pro Asn Asp Ile Ile Ile Glu Leu Ala Arg Glu
465                 470                 475                 480
```

```
Lys Asn Ser Lys Asp Ala Gln Lys Met Ile Asn Glu Met Gln Lys Arg
                485                 490                 495

Asn Arg Gln Thr Asn Glu Arg Ile Glu Glu Ile Ile Arg Thr Thr Gly
            500                 505                 510

Lys Glu Asn Ala Lys Tyr Leu Ile Glu Lys Ile Lys Leu His Asp Met
        515                 520                 525

Gln Glu Gly Lys Cys Leu Tyr Ser Leu Glu Ala Ile Pro Leu Glu Asp
    530                 535                 540

Leu Leu Asn Asn Pro Phe Asn Tyr Glu Val Asp His Ile Ile Pro Arg
545                 550                 555                 560

Ser Val Ser Phe Asp Asn Ser Phe Asn Asn Lys Val Leu Val Lys Gln
                565                 570                 575

Glu Glu Ala Ser Lys Lys Gly Asn Arg Thr Pro Phe Gln Tyr Leu Ser
            580                 585                 590

Ser Ser Asp Ser Lys Ile Ser Tyr Glu Thr Phe Lys Lys His Ile Leu
        595                 600                 605

Asn Leu Ala Lys Gly Lys Gly Arg Ile Ser Lys Thr Lys Lys Glu Tyr
    610                 615                 620

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

Ile Asn Arg Asn Leu Val Asp Thr Arg Tyr Ala Thr Arg Gly Leu Met
                645                 650                 655

Asn Leu Leu Arg Ser Tyr Phe Arg Val Asn Asn Leu Asp Val Lys Val
            660                 665                 670

Lys Ser Ile Asn Gly Gly Phe Thr Ser Phe Leu Arg Arg Lys Trp Lys
        675                 680                 685
```

```
Phe Lys Lys Glu Arg Asn Lys Gly Tyr Lys His His Ala Glu Asp Ala
    690                 695                 700

Leu Ile Ile Ala Asn Ala Asp Phe Ile Phe Lys Glu Trp Lys Lys Leu
705                 710                 715                 720

Asp Lys Ala Lys Lys Val Met Glu Asn Gln Met Phe Glu Glu Lys Gln
                725                 730                 735

Ala Glu Ser Met Pro Glu Ile Glu Thr Glu Gln Glu Tyr Lys Glu Ile
            740                 745                 750

Phe Ile Thr Pro His Gln Ile Lys His Ile Lys Asp Phe Lys Asp Tyr
        755                 760                 765

Lys Tyr Ser His Arg Val Asp Lys Lys Pro Asn Arg Glu Leu Ile Asn
    770                 775                 780

Asp Thr Leu Tyr Ser Thr Arg Lys Asp Asp Lys Gly Asn Thr Leu Ile
785                 790                 795                 800

Val Asn Asn Leu Asn Gly Leu Tyr Asp Lys Asp Asn Asp Lys Leu Lys
                805                 810                 815

Lys Leu Ile Asn Lys Ser Pro Glu Lys Leu Leu Met Tyr His His Asp
            820                 825                 830

Pro Gln Thr Tyr Gln Lys Leu Lys Leu Ile Met Glu Gln Tyr Gly Asp
        835                 840                 845

Glu Lys Asn Pro Leu Tyr Lys Tyr Tyr Glu Glu Thr Gly Asn Tyr Leu
    850                 855                 860

Thr Lys Tyr Ser Lys Lys Asp Asn Gly Pro Val Ile Lys Lys Ile Lys
865                 870                 875                 880

Tyr Tyr Gly Asn Lys Leu Asn Ala His Leu Asp Ile Thr Asp Asp Tyr
                885                 890                 895

Pro Asn Ser Arg Asn Lys Val Val Lys Leu Ser Leu Lys Pro Tyr Arg
            900                 905                 910
```

```
Phe Asp Val Tyr Leu Asp Asn Gly Val Tyr Lys Phe Val Thr Val Lys
        915                 920                 925


Asn Leu Asp Val Ile Lys Lys Glu Asn Tyr Tyr Glu Val Asn Ser Lys
    930                 935                 940


Cys Tyr Glu Glu Ala Lys Lys Leu Lys Lys Ile Ser Asn Gln Ala Glu
945                 950                 955                 960


Phe Ile Ala Ser Phe Tyr Asn Asn Asp Leu Ile Lys Ile Asn Gly Glu
                965                 970                 975


Leu Tyr Arg Val Ile Gly Val Asn Asn Asp Leu Leu Asn Arg Ile Glu
            980                 985                 990


Val Asn Met Ile Asp Ile Thr Tyr  Arg Glu Tyr Leu Glu  Asn Met Asn
        995                 1000                1005


Asp Lys  Arg Pro Pro Arg Ile  Ile Lys Thr Ile Ala  Ser Lys Thr
    1010                1015                1020


Gln Ser  Ile Lys Lys Tyr Ser  Thr Asp Ile Leu Gly  Asn Leu Tyr
    1025                1030                1035


Glu Val  Lys Ser Lys Lys His  Pro Gln Ile Ile Lys  Lys Gly
    1040                1045                1050


<210> 104
<211> 1148
<212> PRT
<213> Artificial Sequence

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

<400> 104
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15


Ala Lys Arg Asn Tyr Ile Leu Gly Leu Ala Ile Gly Ile Thr Ser Val
            20                  25                  30
```

```
Gly Tyr Gly Ile Ile Asp Tyr Glu Thr Arg Asp Val Ile Asp Ala Gly
        35                  40                  45

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

Ser Lys Arg Gly Ala Arg Arg Leu Lys Arg Arg Arg Arg His Arg Ile
65                  70                  75                  80

Gln Arg Val Lys Lys Leu Leu Phe Asp Tyr Asn Leu Leu Thr Asp His
                85                  90                  95

Ser Glu Leu Ser Gly Ile Asn Pro Tyr Glu Ala Arg Val Lys Gly Leu
            100                 105                 110

Ser Gln Lys Leu Ser Glu Glu Glu Phe Ser Ala Ala Leu Leu His Leu
        115                 120                 125

Ala Lys Arg Arg Gly Val His Asn Val Asn Glu Val Glu Glu Asp Thr
    130                 135                 140

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

Leu Glu Glu Lys Tyr Val Ala Glu Leu Gln Leu Glu Arg Leu Lys Lys
                165                 170                 175

Asp Gly Glu Val Arg Gly Ser Ile Asn Arg Phe Lys Thr Ser Asp Tyr
            180                 185                 190

Val Lys Glu Ala Lys Gln Leu Leu Lys Val Gln Lys Ala Tyr His Gln
        195                 200                 205

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

Arg Thr Tyr Tyr Glu Gly Pro Gly Glu Gly Ser Pro Phe Gly Trp Lys
225                 230                 235                 240
```

```
Asp Ile Lys Glu Trp Tyr Glu Met Leu Met Gly His Cys Thr Tyr Phe
                245                 250                 255

Pro Glu Glu Leu Arg Ser Val Lys Tyr Ala Tyr Asn Ala Asp Leu Tyr
            260                 265                 270

Asn Ala Leu Asn Asp Leu Asn Asn Leu Val Ile Thr Arg Asp Glu Asn
        275                 280                 285

Glu Lys Leu Glu Tyr Tyr Glu Lys Phe Gln Ile Ile Glu Asn Val Phe
    290                 295                 300

Lys Gln Lys Lys Lys Pro Thr Leu Lys Gln Ile Ala Lys Glu Ile Leu
305                 310                 315                 320

Val Asn Glu Glu Asp Ile Lys Gly Tyr Arg Val Thr Ser Thr Gly Lys
                325                 330                 335

Pro Glu Phe Thr Asn Leu Lys Val Tyr His Asp Ile Lys Asp Ile Thr
            340                 345                 350

Ala Arg Lys Glu Ile Ile Glu Asn Ala Glu Leu Leu Asp Gln Ile Ala
        355                 360                 365

Lys Ile Leu Thr Ile Tyr Gln Ser Ser Glu Asp Ile Gln Glu Glu Leu
    370                 375                 380

Thr Asn Leu Asn Ser Glu Leu Thr Gln Glu Glu Ile Glu Gln Ile Ser
385                 390                 395                 400

Asn Leu Lys Gly Tyr Thr Gly Thr His Asn Leu Ser Leu Lys Ala Ile
                405                 410                 415

Asn Leu Ile Leu Asp Glu Leu Trp His Thr Asn Asp Asn Gln Ile Ala
            420                 425                 430

Ile Phe Asn Arg Leu Lys Leu Val Pro Lys Lys Val Asp Leu Ser Gln
        435                 440                 445

Gln Lys Glu Ile Pro Thr Thr Leu Val Asp Asp Phe Ile Leu Ser Pro
    450                 455                 460
```

```
Val Val Lys Arg Ser Phe Ile Gln Ser Ile Lys Val Ile Asn Ala Ile
465                 470                 475                 480

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

Glu Lys Asn Ser Lys Asp Ala Gln Lys Met Ile Asn Glu Met Gln Lys
            500                 505                 510

Arg Asn Arg Gln Thr Asn Glu Arg Ile Glu Glu Ile Ile Arg Thr Thr
        515                 520                 525

Gly Lys Glu Asn Ala Lys Tyr Leu Ile Glu Lys Ile Lys Leu His Asp
    530                 535                 540

Met Gln Glu Gly Lys Cys Leu Tyr Ser Leu Glu Ala Ile Pro Leu Glu
545                 550                 555                 560

Asp Leu Leu Asn Asn Pro Phe Asn Tyr Glu Val Asp His Ile Ile Pro
                565                 570                 575

Arg Ser Val Ser Phe Asp Asn Ser Phe Asn Asn Lys Val Leu Val Lys
            580                 585                 590

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

Ser Ser Ser Asp Ser Lys Ile Ser Tyr Glu Thr Phe Lys Lys His Ile
    610                 615                 620

Leu Asn Leu Ala Lys Gly Lys Gly Arg Ile Ser Lys Thr Lys Lys Glu
625                 630                 635                 640

Tyr Leu Leu Glu Glu Arg Asp Ile Asn Arg Phe Ser Val Gln Lys Asp
                645                 650                 655

Phe Ile Asn Arg Asn Leu Val Asp Thr Arg Tyr Ala Thr Arg Gly Leu
            660                 665                 670
```

```
Met Asn Leu Leu Arg Ser Tyr Phe Arg Val Asn Asn Leu Asp Val Lys
        675                 680                 685

Val Lys Ser Ile Asn Gly Gly Phe Thr Ser Phe Leu Arg Arg Lys Trp
    690                 695                 700

Lys Phe Lys Lys Glu Arg Asn Lys Gly Tyr Lys His His Ala Glu Asp
705                 710                 715                 720

Ala Leu Ile Ile Ala Asn Ala Asp Phe Ile Phe Lys Glu Trp Lys Lys
                725                 730                 735

Leu Asp Lys Ala Lys Lys Val Met Glu Asn Gln Met Phe Glu Glu Lys
            740                 745                 750

Gln Ala Glu Ser Met Pro Glu Ile Glu Thr Glu Gln Glu Tyr Lys Glu
        755                 760                 765

Ile Phe Ile Thr Pro His Gln Ile Lys His Ile Lys Asp Phe Lys Asp
    770                 775                 780

Tyr Lys Tyr Ser His Arg Val Asp Lys Lys Pro Asn Arg Glu Leu Ile
785                 790                 795                 800

Asn Asp Thr Leu Tyr Ser Thr Arg Lys Asp Asp Lys Gly Asn Thr Leu
                805                 810                 815

Ile Val Asn Asn Leu Asn Gly Leu Tyr Asp Lys Asp Asn Asp Lys Leu
            820                 825                 830

Lys Lys Leu Ile Asn Lys Ser Pro Glu Lys Leu Leu Met Tyr His His
        835                 840                 845

Asp Pro Gln Thr Tyr Gln Lys Leu Lys Leu Ile Met Glu Gln Tyr Gly
    850                 855                 860

Asp Glu Lys Asn Pro Leu Tyr Lys Tyr Tyr Glu Glu Thr Gly Asn Tyr
865                 870                 875                 880

Leu Thr Lys Tyr Ser Lys Lys Asp Asn Gly Pro Val Ile Lys Lys Ile
                885                 890                 895
```

```
Lys Tyr Tyr Gly Asn Lys Leu Asn Ala His Leu Asp Ile Thr Asp Asp
            900                 905                 910

Tyr Pro Asn Ser Arg Asn Lys Val Val Lys Leu Ser Leu Lys Pro Tyr
        915                 920                 925

Arg Phe Asp Val Tyr Leu Asp Asn Gly Val Tyr Lys Phe Val Thr Val
    930                 935                 940

Lys Asn Leu Asp Val Ile Lys Lys Glu Asn Tyr Tyr Glu Val Asn Ser
945                 950                 955                 960

Lys Cys Tyr Glu Glu Ala Lys Lys Leu Lys Lys Ile Ser Asn Gln Ala
                965                 970                 975

Glu Phe Ile Ala Ser Phe Tyr Asn Asn Asp Leu Ile Lys Ile Asn Gly
            980                 985                 990

Glu Leu Tyr Arg Val Ile Gly Val  Asn Asn Asp Leu Leu  Asn Arg Ile
        995                 1000                1005

Glu Val  Asn Met Ile Asp Ile  Thr Tyr Arg Glu Tyr  Leu Glu Asn
    1010                1015                1020

Met Asn  Asp Lys Arg Pro Pro  Arg Ile Ile Lys Thr  Ile Ala Ser
    1025                1030                1035

Lys Thr  Gln Ser Ile Lys Lys  Tyr Ser Thr Asp Ile  Leu Gly Asn
    1040                1045                1050

Leu Tyr  Glu Val Lys Ser Lys  Lys His Pro Gln Ile  Ile Lys Lys
    1055                1060                1065

Gly Lys  Arg Pro Ala Ala Thr  Lys Lys Ala Gly Gln  Ala Lys Lys
    1070                1075                1080

Lys Lys  Gly Ser Tyr Pro Tyr  Asp Val Pro Asp Tyr  Ala Leu Glu
    1085                1090                1095
```

Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala
    1100   1105   1110

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp
    1115   1120   1125

Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe
    1130   1135   1140

Asp Leu Asp Met Leu
    1145

<210> 105
<211> 21
<212> DNA
<213> Artificial Sequence

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

<400> 105
tgacctagac agccttacat a   21

<210> 106
<211> 21
<212> DNA
<213> Homo sapiens

<400> 106
taaggctgtc taggtcaagt g   21

<210> 107
<211> 21
<212> DNA
<213> Homo sapiens

<400> 107
aaggctgtct aggtcaagtg t   21

<210> 108
<211> 21
<212> DNA
<213> Homo sapiens

<400> 108
gatgaagccg agaggatact g   21

<210> 109
<211> 21
<212> DNA
<213> Homo sapiens

<400> 109
gctgatttgt attaggtacc a 21

<210> 110
<211> 21
<212> DNA
<213> Artificial Sequence

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

<400> 110
cttcgttatg taaggctgtc t 21

<210> 111
<211> 21
<212> DNA
<213> Artificial Sequence

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

<400> 111
caagtgtagg agacacactg c 21

<210> 112
<211> 1052
<212> PRT
<213> Artificial Sequence

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

<400> 112
Lys Arg Asn Tyr Ile Leu Gly Leu Ala Ile Gly Ile Thr Ser Val Gly
1 5 10 15

Tyr Gly Ile Ile Asp Tyr Glu Thr Arg Asp Val Ile Asp Ala Gly Val
20 25 30

```
Arg Leu Phe Lys Glu Ala Asn Val Glu Asn Asn Glu Gly Arg Arg Ser
        35                  40                  45

Lys Arg Gly Ala Arg Arg Leu Lys Arg Arg Arg Arg His Arg Ile Gln
    50                  55                  60

Arg Val Lys Lys Leu Leu Phe Asp Tyr Asn Leu Leu Thr Asp His Ser
65                  70                  75                  80

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

Gln Lys Leu Ser Glu Glu Glu Phe Ser Ala Ala Leu Leu His Leu Ala
            100                 105                 110

Lys Arg Arg Gly Val His Asn Val Asn Glu Val Glu Glu Asp Thr Gly
        115                 120                 125

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

Glu Glu Lys Tyr Val Ala Glu Leu Gln Leu Glu Arg Leu Lys Lys Asp
145                 150                 155                 160

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

Lys Glu Ala Lys Gln Leu Leu Lys Val Gln Lys Ala Tyr His Gln Leu
            180                 185                 190

Asp Gln Ser Phe Ile Asp Thr Tyr Ile Asp Leu Leu Glu Thr Arg Arg
        195                 200                 205

Thr Tyr Tyr Glu Gly Pro Gly Glu Gly Ser Pro Phe Gly Trp Lys Asp
    210                 215                 220

Ile Lys Glu Trp Tyr Glu Met Leu Met Gly His Cys Thr Tyr Phe Pro
225                 230                 235                 240

Glu Glu Leu Arg Ser Val Lys Tyr Ala Tyr Asn Ala Asp Leu Tyr Asn
```

```
               245                 250                 255

Ala Leu Asn Asp Leu Asn Asn Leu Val Ile Thr Arg Asp Glu Asn Glu
            260                 265                 270

Lys Leu Glu Tyr Tyr Glu Lys Phe Gln Ile Ile Glu Asn Val Phe Lys
        275                 280                 285

Gln Lys Lys Lys Pro Thr Leu Lys Gln Ile Ala Lys Glu Ile Leu Val
    290                 295                 300

Asn Glu Glu Asp Ile Lys Gly Tyr Arg Val Thr Ser Thr Gly Lys Pro
305                 310                 315                 320

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

Arg Lys Glu Ile Ile Glu Asn Ala Glu Leu Leu Asp Gln Ile Ala Lys
            340                 345                 350

Ile Leu Thr Ile Tyr Gln Ser Ser Glu Asp Ile Gln Glu Glu Leu Thr
        355                 360                 365

Asn Leu Asn Ser Glu Leu Thr Gln Glu Glu Ile Glu Gln Ile Ser Asn
    370                 375                 380

Leu Lys Gly Tyr Thr Gly Thr His Asn Leu Ser Leu Lys Ala Ile Asn
385                 390                 395                 400

Leu Ile Leu Asp Glu Leu Trp His Thr Asn Asp Asn Gln Ile Ala Ile
                405                 410                 415

Phe Asn Arg Leu Lys Leu Val Pro Lys Lys Val Asp Leu Ser Gln Gln
            420                 425                 430

Lys Glu Ile Pro Thr Thr Leu Val Asp Asp Phe Ile Leu Ser Pro Val
        435                 440                 445

Val Lys Arg Ser Phe Ile Gln Ser Ile Lys Val Ile Asn Ala Ile Ile
    450                 455                 460
```

```
Lys Lys Tyr Gly Leu Pro Asn Asp Ile Ile Ile Glu Leu Ala Arg Glu
465                 470                 475                 480

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

Asn Arg Gln Thr Asn Glu Arg Ile Glu Glu Ile Ile Arg Thr Thr Gly
            500                 505                 510

Lys Glu Asn Ala Lys Tyr Leu Ile Glu Lys Ile Lys Leu His Asp Met
        515                 520                 525

Gln Glu Gly Lys Cys Leu Tyr Ser Leu Glu Ala Ile Pro Leu Glu Asp
    530                 535                 540

Leu Leu Asn Asn Pro Phe Asn Tyr Glu Val Asp His Ile Ile Pro Arg
545                 550                 555                 560

Ser Val Ser Phe Asp Asn Ser Phe Asn Asn Lys Val Leu Val Lys Gln
                565                 570                 575

Glu Glu Ala Ser Lys Lys Gly Asn Arg Thr Pro Phe Gln Tyr Leu Ser
            580                 585                 590

Ser Ser Asp Ser Lys Ile Ser Tyr Glu Thr Phe Lys Lys His Ile Leu
        595                 600                 605

Asn Leu Ala Lys Gly Lys Gly Arg Ile Ser Lys Thr Lys Lys Glu Tyr
    610                 615                 620

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

Ile Asn Arg Asn Leu Val Asp Thr Arg Tyr Ala Thr Arg Gly Leu Met
                645                 650                 655

Asn Leu Leu Arg Ser Tyr Phe Arg Val Asn Asn Leu Asp Val Lys Val
            660                 665                 670

Lys Ser Ile Asn Gly Gly Phe Thr Ser Phe Leu Arg Arg Lys Trp Lys
```

```
        675                 680                 685

Phe Lys Lys Glu Arg Asn Lys Gly Tyr Lys His His Ala Glu Asp Ala
    690                 695                 700

Leu Ile Ile Ala Asn Ala Asp Phe Ile Phe Lys Glu Trp Lys Lys Leu
705                 710                 715                 720

Asp Lys Ala Lys Lys Val Met Glu Asn Gln Met Phe Glu Glu Lys Gln
                725                 730                 735

Ala Glu Ser Met Pro Glu Ile Glu Thr Glu Gln Glu Tyr Lys Glu Ile
            740                 745                 750

Phe Ile Thr Pro His Gln Ile Lys His Ile Lys Asp Phe Lys Asp Tyr
        755                 760                 765

Lys Tyr Ser His Arg Val Asp Lys Lys Pro Asn Arg Glu Leu Ile Asn
    770                 775                 780

Asp Thr Leu Tyr Ser Thr Arg Lys Asp Asp Lys Gly Asn Thr Leu Ile
785                 790                 795                 800

Val Asn Asn Leu Asn Gly Leu Tyr Asp Lys Asp Asn Asp Lys Leu Lys
                805                 810                 815

Lys Leu Ile Asn Lys Ser Pro Glu Lys Leu Leu Met Tyr His His Asp
            820                 825                 830

Pro Gln Thr Tyr Gln Lys Leu Lys Leu Ile Met Glu Gln Tyr Gly Asp
        835                 840                 845

Glu Lys Asn Pro Leu Tyr Lys Tyr Tyr Glu Glu Thr Gly Asn Tyr Leu
    850                 855                 860

Thr Lys Tyr Ser Lys Lys Asp Asn Gly Pro Val Ile Lys Lys Ile Lys
865                 870                 875                 880

Tyr Tyr Gly Asn Lys Leu Asn Ala His Leu Asp Ile Thr Asp Asp Tyr
                885                 890                 895
```

Pro Asn Ser Arg Asn Lys Val Val Lys Leu Ser Leu Lys Pro Tyr Arg
900 905 910

Phe Asp Val Tyr Leu Asp Asn Gly Val Tyr Lys Phe Val Thr Val Lys
915 920 925

Asn Leu Asp Val Ile Lys Lys Glu Asn Tyr Tyr Glu Val Asn Ser Lys
930 935 940

Cys Tyr Glu Glu Ala Lys Lys Leu Lys Lys Ile Ser Asn Gln Ala Glu
945 950 955 960

Phe Ile Ala Ser Phe Tyr Asn Asn Asp Leu Ile Lys Ile Asn Gly Glu
965 970 975

Leu Tyr Arg Val Ile Gly Val Asn Asn Asp Leu Leu Asn Arg Ile Glu
980 985 990

Val Asn Met Ile Asp Ile Thr Tyr Arg Glu Tyr Leu Glu Asn Met Asn
995 1000 1005

Asp Lys Arg Pro Pro Arg Ile Ile Lys Thr Ile Ala Ser Lys Thr
1010 1015 1020

Gln Ser Ile Lys Lys Tyr Ser Thr Asp Ile Leu Gly Asn Leu Tyr
1025 1030 1035

Glu Val Lys Ser Lys Lys His Pro Gln Ile Ile Lys Lys Gly
1040 1045 1050

<210> 113
<211> 21
<212> DNA
<213> Homo sapiens

<400> 113
catgatccct agaaatgggg t 21

<210> 114
<211> 523
<212> PRT
<213> Artificial Sequence

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

<400> 114
Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
1 5 10 15

Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe
20 25 30

Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp
35 40 45

Met Leu Ile Asn Ser Arg Ser Ser Gly Ser Pro Lys Lys Lys Arg Lys
50 55 60

Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp Asp Arg His Arg Ile Glu
65 70 75 80

Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys
85 90 95

Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg Pro Pro Pro Arg Arg Ile
100 105 110

Ala Val Pro Ser Arg Ser Ser Ala Ser Val Pro Lys Pro Ala Pro Gln
115 120 125

Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe
130 135 140

Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu
145 150 155 160

Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro Ala Pro
165 170 175

Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro
180 185 190

```
Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys
        195                 200                 205

Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu
    210                 215                 220

Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp
225                 230                 235                 240

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

Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro
            260                 265                 270

Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Gly Ala
        275                 280                 285

Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu
    290                 295                 300

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

Met Asp Phe Ser Ala Leu Leu Gly Ser Gly Ser Gly Ser Arg Asp Ser
                325                 330                 335

Arg Glu Gly Met Phe Leu Pro Lys Pro Glu Ala Gly Ser Ala Ile Ser
            340                 345                 350

Asp Val Phe Glu Gly Arg Glu Val Cys Gln Pro Lys Arg Ile Arg Pro
        355                 360                 365

Phe His Pro Pro Gly Ser Pro Trp Ala Asn Arg Pro Leu Pro Ala Ser
    370                 375                 380

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

Thr Pro Ala Pro Val Pro Gln Pro Leu Asp Pro Ala Pro Ala Val Thr
                405                 410                 415
```

Pro Glu Ala Ser His Leu Leu Glu Asp Pro Asp Glu Glu Thr Ser Gln
420 425 430

Ala Val Lys Ala Leu Arg Glu Met Ala Asp Thr Val Ile Pro Gln Lys
435 440 445

Glu Glu Ala Ala Ile Cys Gly Gln Met Asp Leu Ser His Pro Pro Pro
450 455 460

Arg Gly His Leu Asp Glu Leu Thr Thr Thr Leu Glu Ser Met Thr Glu
465 470 475 480

Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro Glu Leu Asn Glu Ile Leu
485 490 495

Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu His Ala Met His Ile Ser
500 505 510

Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu Phe
515 520

<210> 115
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 115
Arg Ser Asp Asn Leu Val Arg
1 5

<210> 116
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 116

Arg Glu Asp Asn Leu His Thr
1 5

<210> 117
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 117
Arg Ser Asp Glu Leu Val Arg
1 5

<210> 118
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 118
Gln Ser Gly Asn Leu Thr Glu
1 5

<210> 119
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 119
Thr Ser Gly His Leu Val Arg
1 5

<210> 120
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 120
Gln Asn Ser Thr Leu Thr Glu
1   5

<210> 121
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 121
Asp Pro Gly Ala Leu Val Arg
1   5

<210> 122
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 122
His Arg Thr Thr Leu Thr Asn
1   5

<210> 123
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 123
Gln Ser Gly Asp Leu Arg Arg
1   5

<210> 124
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 124
Thr Ser His Ser Leu Thr Glu
1 5

<210> 125
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 125
Thr His Leu Asp Leu Ile Arg
1 5

<210> 126
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 126
Gln Ser Ser Ser Leu Val Arg
1 5

<210> 127
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 127
Thr Ser Gly Asn Leu Val Arg
1 5

<210> 128
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 128
Arg Arg Asp Glu Leu Asn Val
1 5

<210> 129
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 129
Arg Ser Asp Asp Leu Val Arg
1 5

<210> 130
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 130
Arg Ser Asp His Leu Thr Asn
1 5

<210> 131
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 131
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
20 25 30

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
        35                  40                  45

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Asn
145                 150                 155                 160

Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 132
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 132
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
            20                  25                  30
```

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
        35                  40                  45

Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

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

Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
145                 150                 155                 160

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 133
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 133
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15

Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln Arg Thr His Thr Gly
            20                  25                  30
```

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
        35                  40                  45

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145                 150                 155                 160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 134
<211> 260
<212> PRT
<213> Artificial Sequence

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

<400> 134
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15

Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr Gly
            20                  25                  30
```

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
        35                  40                  45

Asp His Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser His Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
145                 150                 155                 160

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
                165                 170                 175

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr
            180                 185                 190

Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
        195                 200                 205

Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg
    210                 215                 220

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
225                 230                 235                 240
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Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly
245 250 255

Lys Lys Thr Ser
260

<210> 135
<211> 292
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (8)..(57)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (8)..(57)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (65)..(114)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (65)..(114)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (122)..(171)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (122)..(171)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (179)..(228)
<223> Any amino acid

<220>

<221> MISC_FEATURE
<222> (179)..(228)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (236)..(285)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (236)..(285)
<223> This region may encompass 1-50 residues

<400> 135
Arg Ser Asp Asn Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Glu Asp Asn Leu His Thr
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Arg Ser Asp Glu Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln Ser Gly Asn Leu
165 170 175

Thr Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
180 185 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
195 200 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
210 215 220

Xaa Xaa Xaa Xaa Thr Ser Gly His Leu Val Arg Xaa Xaa Xaa Xaa Xaa
225 230 235 240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
245 250 255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
260 265 270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln Asn Ser
275 280 285

Thr Leu Thr Glu
290

<210> 136
<211> 18
<212> DNA
<213> Homo sapiens

<400> 136
gaggatactg cagaggtc 18

<210> 137

<400> 137
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<210> 138

<400> 138
000

<210> 139

<400> 139
000

<210> 140

<400> 140
000

<210> 141
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 141
Arg Asn Asp Thr Leu Thr Glu
1 5

<210> 142
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 142
Arg Ser Asp Asn Leu Val Arg
1 5

<210> 143
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 143

Arg Ser Asp His Leu Thr Thr
1 5

<210> 144
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 144
Ser Pro Ala Asp Leu Thr Arg
1 5

<210> 145
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 145
Thr Ser His Ser Leu Thr Glu
1 5

<210> 146
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 146
Gln Ser Gly Asp Leu Arg Arg
1 5

<210> 147
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 147
Asp Pro Gly Ala Leu Val Arg
1   5

<210> 148
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 148
Asp Pro Gly His Leu Val Arg
1   5

<210> 149
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 149
Arg Ser Asp Glu Leu Val Arg
1   5

<210> 150
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 150
Asp Ser Gly Asn Leu Arg Val
1   5

<210> 151
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 151
His Lys Asn Ala Leu Gln Asn
1 5

<210> 152
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 152
Thr Ser Gly Glu Leu Val Arg
1 5

<210> 153
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 153
Arg Ser Asp Lys Leu Val Arg
1 5

<210> 154
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 154
Gln Leu Ala His Leu Arg Ala
1 5

<210> 155
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 155
Glu Arg Ser His Leu Arg Glu
1 5

<210> 156
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 156
Thr Thr Gly Asn Leu Thr Val
1 5

<210> 157
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 157
Gln Arg Ala Asn Leu Arg Ala
1 5

<210> 158
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 158
Ser Lys Lys Ala Leu Thr Glu
1 5

<210> 159
<211> 7

<212> PRT
<213> Artificial Sequence

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

<400> 159
Arg Glu Asp Asn Leu His Thr
1 5

<210> 160
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 160
Thr Lys Asn Ser Leu Thr Glu
1 5

<210> 161
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 161
Arg Lys Asp Asn Leu Lys Asn
1 5

<210> 162
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 162
Gln Ser Ser Asn Leu Val Arg
1 5

<210> 163
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 163
Gln Ser Ser Ser Leu Val Arg
1 5

<210> 164
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 164
Gln Ala Gly His Leu Ala Ser
1 5

<210> 165
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 165
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Asn Asp Thr Leu Thr Glu His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro
35 40 45

Gly Ala Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Glu Leu Val
65 70 75 80

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Thr Ser Gly Glu Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Lys
145 150 155 160

Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 166
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 166
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro
35 40 45

Gly His Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

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

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Thr
145 150 155 160

Gly Asn Leu Thr Val His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 167
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 167
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp His Leu Thr Thr His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
35 40 45

Asp Glu Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Thr Thr Gly Asn Leu Thr Val His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Gln Leu Ala His Leu Arg Ala His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Lys
145 150 155 160

Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 168
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 168
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Ser
35 40 45

Gly Asn Leu Arg Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg
65 70 75 80

Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145 150 155 160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 169
<211> 260
<212> PRT
<213> Artificial Sequence

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

<400> 169
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Lys
35 40 45

Asn Ala Leu Gln Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Lys
145                 150                 155                 160

Asp Asn Leu Lys Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
                165                 170                 175

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val
            180                 185                 190

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
        195                 200                 205

Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg
    210                 215                 220

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
225                 230                 235                 240

Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr Gly
                245                 250                 255

Lys Lys Thr Ser
            260
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<210> 170
<211> 204

<212> PRT
<213> Artificial Sequence

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

<400> 170
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Gln Ser Gly Asp Leu Arg Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Pro
35 40 45

Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg Ala His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
145 150 155 160

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
165 170 175

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

Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
195 200

<210> 171
<211> 292
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (8)..(57)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (8)..(57)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (65)..(114)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (65)..(114)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (122)..(171)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (122)..(171)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (179)..(228)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (179)..(228)

<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (236)..(285)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (236)..(285)
<223> This region may encompass 1-50 residues

<400> 171
Arg Asn Asp Thr Leu Thr Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Gly Ala Leu Val Arg
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Thr Ser Gly Glu Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp Asn Leu

165 170 175

Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
180 185 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
195 200 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
210 215 220

Xaa Xaa Xaa Xaa Thr Ser Gly Glu Leu Val Arg Xaa Xaa Xaa Xaa Xaa
225 230 235 240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
245 250 255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
260 265 270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Lys Asn
275 280 285

Ser Leu Thr Glu
290

<210> 172

<400> 172
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<210> 173

<400> 173
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<210> 174

<400> 174
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<210> 175

<400> 175
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<210> 176

<400> 176
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<210> 177

<400> 177
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<210> 178
<211> 49
<212> DNA
<213> Artificial Sequence

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

<400> 178
gtgtgtatgc tcaggggctg ggaaaggagg ggagggagct ccggctcag 49

<210> 179
<211> 1644
<212> DNA
<213> Artificial Sequence

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

<400> 179
cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc cccgcccatt 60

gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc attgacgtca 120

atgggtggag tatttacggt aaactgccca cttggcagta catcaagtgt atcatatgcc 180

aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt atgcccagta 240

catgacctta tgggactttc ctacttggca gtacatctac gtattagtca tcgctattac 300

catgggtcga ggtgagcccc acgttctgct tcactctccc catctccccc ccctccccac 360

ccccaatttt gtatttattt atttttttaat tattttgtgc agcgatgggg gcgggggggg 420

gggggcgcg cgccaggcgg ggcggggcgg ggcgaggggc ggggcggggc gaggcggaga 480

ggtgcggcgg cagccaatca gagcggcgcg ctccgaaagt ttccttttat ggcgaggcgg 540

cggcggcggc ggccctataa aaagcgaagc gcgcggcggg cgggagtcgc tgcgttgcct 600

tcgccccgtg ccccgctccg cgccgcctcg cgccgcccgc cccggctctg actgaccgcg 660

ttactcccac aggtgagcgg gcgggacggc ccttctcctc cgggctgtaa ttagcgcttg 720

gtttaatgac ggctcgtttc ttttctgtgg ctgcgtgaaa gccttaaagg gctccgggag 780

ggcccttttgt gcgggggggga gcggctcggg gggtgcgtgc gtgtgtgtgt gcgtggggag 840

cgccgcgtgc ggcccgcgct gcccggcggc tgtgagcgct gcgggcgcgg cgcggggctt 900

tgtgcgctcc gcgtgtgcgc gaggggagcg cggccggggg cggtgccccg cggtgcgggg 960

gggctgcgag gggaacaaag gctgcgtgcg gggtgtgtgc gtgggggggt gagcagggggg 1020

tgtgggcgcg gcggtcgggc tgtaaccccc ccctgcaccc ccctccccga gttgctgagc 1080

acggcccggc ttcgggtgcg gggctccgtg cggggcgtgg cgcggggctc gccgtgccgg 1140

gcgggggggtg gcggcaggtg ggggtgccgg gcggggcggg gccgcctcgg gccggggagg 1200

gctcgggggga ggggcgcggc ggccccggag cgccggcggc tgtcgaggcg cggcgagccg 1260

cagccattgc cttttatggt aatcgtgcga gagggcgcag ggacttcctt tgtcccaaat 1320

ctggcggagc cgaaatctgg gaggcgccgc cgcacccccct ctagcgggcg cgggcgaagc 1380

ggtgcggcgc cggcaggaag gaaatgggcg gggagggcct tcgtgcgtcg ccgcgccgcc 1440

gtccccttct ccatctccag cctcggggct gccgcagggg gacggctgcc ttcgggggggg 1500

acggggcagg gcggggttcg gcttctggcg tgtgaccggc ggctctagag cctctgctaa 1560

ccatgttcat gccttcttct ttttcctaca gctcctgggc aacgtgctgg ttgttgtgct 1620

gtctcatcat tttggcaaag aatt 1644

<210> 180
<211> 2009
<212> PRT
<213> Homo sapiens

<400> 180
Met Glu Gln Thr Val Leu Val Pro Pro Gly Pro Asp Ser Phe Asn Phe
1 5 10 15

Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Arg Arg Ile Ala Glu Glu

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            20                  25                  30

Lys Ala Lys Asn Pro Lys Pro Asp Lys Lys Asp Asp Asp Glu Asn Gly
        35                  40                  45

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

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
65                  70                  75                  80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Gly
                85                  90                  95

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
            100                 105                 110

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

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
    130                 135                 140

Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
145                 150                 155                 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg
                165                 170                 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
            180                 185                 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp
        195                 200                 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
    210                 215                 220

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

```
Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
                245                 250                 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
            260                 265                 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu
        275                 280                 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu
    290                 295                 300

Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp
305                 310                 315                 320

Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys
                325                 330                 335

Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val
            340                 345                 350

Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe
        355                 360                 365

Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp
    370                 375                 380

Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met
385                 390                 395                 400

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

Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala
            420                 425                 430

Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile
        435                 440                 445

Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala
```

```
    450                 455                 460

Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser
465                 470                 475                 480

Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu
                485                 490                 495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly
            500                 505                 510

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser
        515                 520                 525

Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr
    530                 535                 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg
545                 550                 555                 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser
                565                 570                 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp
            580                 585                 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu
        595                 600                 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln
    610                 615                 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys
625                 630                 635                 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly
                645                 650                 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile
            660                 665                 670
```

```
Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu
        675                 680                 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu
    690                 695                 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu
705                 710                 715                 720

Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro
                725                 730                 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro
            740                 745                 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro
        755                 760                 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe
    770                 775                 780

Met Ala Met Glu His Tyr Pro Met Thr Asp His Phe Asn Asn Val Leu
785                 790                 795                 800

Thr Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Phe
                805                 810                 815

Leu Lys Ile Ile Ala Met Asp Pro Tyr Tyr Tyr Phe Gln Glu Gly Trp
            820                 825                 830

Asn Ile Phe Asp Gly Phe Ile Val Thr Leu Ser Leu Val Glu Leu Gly
        835                 840                 845

Leu Ala Asn Val Glu Gly Leu Ser Val Leu Arg Ser Phe Arg Leu Leu
    850                 855                 860

Arg Val Phe Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Met Leu Ile
865                 870                 875                 880

Lys Ile Ile Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val
```

```
               885                 890                 895

Leu Ala Ile Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe
            900                 905                 910

Gly Lys Ser Tyr Lys Asp Cys Val Cys Lys Ile Ala Ser Asp Cys Gln
        915                 920                 925

Leu Pro Arg Trp His Met Asn Asp Phe Phe His Ser Phe Leu Ile Val
    930                 935                 940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met
945                 950                 955                 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met
                965                 970                 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu
            980                 985                 990

Ser Ser Phe Ser Ala Asp Asn Leu  Ala Ala Thr Asp Asp  Asp Asn Glu
        995                 1000                1005

Met Asn  Asn Leu Gln Ile Ala  Val Asp Arg Met His  Lys Gly Val
    1010                1015                1020

Ala Tyr  Val Lys Arg Lys Ile  Tyr Glu Phe Ile Gln  Gln Ser Phe
    1025                1030                1035

Ile Arg  Lys Gln Lys Ile Leu  Asp Glu Ile Lys Pro  Leu Asp Asp
    1040                1045                1050

Leu Asn  Asn Lys Lys Asp Ser  Cys Met Ser Asn His  Thr Ala Glu
    1055                1060                1065

Ile Gly  Lys Asp Leu Asp Tyr  Leu Lys Asp Val Asn  Gly Thr Thr
    1070                1075                1080

Ser Gly  Ile Gly Thr Gly Ser  Ser Val Glu Lys Tyr  Ile Ile Asp
    1085                1090                1095
```

```
Glu Ser  Asp Tyr Met Ser Phe  Ile Asn Asn Pro Ser  Leu Thr Val
    1100                1105                1110

Thr Val  Pro Ile Ala Val Gly  Glu Ser Asp Phe Glu  Asn Leu Asn
    1115                1120                1125

Thr Glu  Asp Phe Ser Ser Glu  Ser Asp Leu Glu Glu  Ser Lys Glu
    1130                1135                1140

Lys Leu  Asn Glu Ser Ser Ser  Ser Ser Glu Gly Ser  Thr Val Asp
    1145                1150                1155

Ile Gly  Ala Pro Val Glu Glu  Gln Pro Val Val Glu  Pro Glu Glu
    1160                1165                1170

Thr Leu  Glu Pro Glu Ala Cys  Phe Thr Glu Gly Cys  Val Gln Arg
    1175                1180                1185

Phe Lys  Cys Cys Gln Ile Asn  Val Glu Glu Gly Arg  Gly Lys Gln
    1190                1195                1200

Trp Trp  Asn Leu Arg Arg Thr  Cys Phe Arg Ile Val  Glu His Asn
    1205                1210                1215

Trp Phe  Glu Thr Phe Ile Val  Phe Met Ile Leu Leu  Ser Ser Gly
    1220                1225                1230

Ala Leu  Ala Phe Glu Asp Ile  Tyr Ile Asp Gln Arg  Lys Thr Ile
    1235                1240                1245

Lys Thr  Met Leu Glu Tyr Ala  Asp Lys Val Phe Thr  Tyr Ile Phe
    1250                1255                1260

Ile Leu  Glu Met Leu Leu Lys  Trp Val Ala Tyr Gly  Tyr Gln Thr
    1265                1270                1275

Tyr Phe  Thr Asn Ala Trp Cys  Trp Leu Asp Phe Leu  Ile Val Asp
    1280                1285                1290

Val Ser  Leu Val Ser Leu Thr  Ala Asn Ala Leu Gly  Tyr Ser Glu
```

```
    1295                1300                1305

Leu Gly  Ala Ile Lys Ser Leu  Arg Thr Leu Arg Ala  Leu Arg Pro
    1310                1315                1320

Leu Arg  Ala Leu Ser Arg Phe  Glu Gly Met Arg Val  Val Val Asn
    1325                1330                1335

Ala Leu  Leu Gly Ala Ile Pro  Ser Ile Met Asn Val  Leu Leu Val
    1340                1345                1350

Cys Leu  Ile Phe Trp Leu Ile  Phe Ser Ile Met Gly  Val Asn Leu
    1355                1360                1365

Phe Ala  Gly Lys Phe Tyr His  Cys Ile Asn Thr Thr  Thr Gly Asp
    1370                1375                1380

Arg Phe  Asp Ile Glu Asp Val  Asn Asn His Thr Asp  Cys Leu Lys
    1385                1390                1395

Leu Ile  Glu Arg Asn Glu Thr  Ala Arg Trp Lys Asn  Val Lys Val
    1400                1405                1410

Asn Phe  Asp Asn Val Gly Phe  Gly Tyr Leu Ser Leu  Leu Gln Val
    1415                1420                1425

Ala Thr  Phe Lys Gly Trp Met  Asp Ile Met Tyr Ala  Ala Val Asp
    1430                1435                1440

Ser Arg  Asn Val Glu Leu Gln  Pro Lys Tyr Glu Glu  Ser Leu Tyr
    1445                1450                1455

Met Tyr  Leu Tyr Phe Val Ile  Phe Ile Ile Phe Gly  Ser Phe Phe
    1460                1465                1470

Thr Leu  Asn Leu Phe Ile Gly  Val Ile Ile Asp Asn  Phe Asn Gln
    1475                1480                1485

Gln Lys  Lys Lys Phe Gly Gly  Gln Asp Ile Phe Met  Thr Glu Glu
    1490                1495                1500
```

```
Gln Lys  Lys Tyr Tyr Asn Ala  Met Lys Lys Leu Gly  Ser Lys Lys
    1505                 1510                 1515

Pro Gln  Lys Pro Ile Pro Arg  Pro Gly Asn Lys Phe  Gln Gly Met
    1520                 1525                 1530

Val Phe  Asp Phe Val Thr Arg  Gln Val Phe Asp Ile  Ser Ile Met
    1535                 1540                 1545

Ile Leu  Ile Cys Leu Asn Met  Val Thr Met Met Val  Glu Thr Asp
    1550                 1555                 1560

Asp Gln  Ser Glu Tyr Val Thr  Thr Ile Leu Ser Arg  Ile Asn Leu
    1565                 1570                 1575

Val Phe  Ile Val Leu Phe Thr  Gly Glu Cys Val Leu  Lys Leu Ile
    1580                 1585                 1590

Ser Leu  Arg His Tyr Tyr Phe  Thr Ile Gly Trp Asn  Ile Phe Asp
    1595                 1600                 1605

Phe Val  Val Val Ile Leu Ser  Ile Val Gly Met Phe  Leu Ala Glu
    1610                 1615                 1620

Leu Ile  Glu Lys Tyr Phe Val  Ser Pro Thr Leu Phe  Arg Val Ile
    1625                 1630                 1635

Arg Leu  Ala Arg Ile Gly Arg  Ile Leu Arg Leu Ile  Lys Gly Ala
    1640                 1645                 1650

Lys Gly  Ile Arg Thr Leu Leu  Phe Ala Leu Met Met  Ser Leu Pro
    1655                 1660                 1665

Ala Leu  Phe Asn Ile Gly Leu  Leu Leu Phe Leu Val  Met Phe Ile
    1670                 1675                 1680

Tyr Ala  Ile Phe Gly Met Ser  Asn Phe Ala Tyr Val  Lys Arg Glu
    1685                 1690                 1695

Val Gly  Ile Asp Asp Met Phe  Asn Phe Glu Thr Phe  Gly Asn Ser
```

```
    1700                1705                1710

Met Ile  Cys Leu Phe Gln Ile  Thr Thr Ser Ala Gly  Trp Asp Gly
    1715                1720                1725

Leu Leu  Ala Pro Ile Leu Asn  Ser Lys Pro Pro Asp  Cys Asp Pro
    1730                1735                1740

Asn Lys  Val Asn Pro Gly Ser  Ser Val Lys Gly Asp  Cys Gly Asn
    1745                1750                1755

Pro Ser  Val Gly Ile Phe Phe  Phe Val Ser Tyr Ile  Ile Ile Ser
    1760                1765                1770

Phe Leu  Val Val Val Asn Met  Tyr Ile Ala Val Ile  Leu Glu Asn
    1775                1780                1785

Phe Ser  Val Ala Thr Glu Glu  Ser Ala Glu Pro Leu  Ser Glu Asp
    1790                1795                1800

Asp Phe  Glu Met Phe Tyr Glu  Val Trp Glu Lys Phe  Asp Pro Asp
    1805                1810                1815

Ala Thr  Gln Phe Met Glu Phe  Glu Lys Leu Ser Gln  Phe Ala Ala
    1820                1825                1830

Ala Leu  Glu Pro Pro Leu Asn  Leu Pro Gln Pro Asn  Lys Leu Gln
    1835                1840                1845

Leu Ile  Ala Met Asp Leu Pro  Met Val Ser Gly Asp  Arg Ile His
    1850                1855                1860

Cys Leu  Asp Ile Leu Phe Ala  Phe Thr Lys Arg Val  Leu Gly Glu
    1865                1870                1875

Ser Gly  Glu Met Asp Ala Leu  Arg Ile Gln Met Glu  Glu Arg Phe
    1880                1885                1890

Met Ala  Ser Asn Pro Ser Lys  Val Ser Tyr Gln Pro  Ile Thr Thr
    1895                1900                1905
```

```
Thr Leu  Lys Arg Lys Gln Glu  Glu Val Ser Ala Val  Ile Ile Gln
    1910                1915                1920


Arg Ala  Tyr Arg Arg His Leu  Leu Lys Arg Thr Val  Lys Gln Ala
    1925                1930                1935


Ser Phe  Thr Tyr Asn Lys Asn  Lys Ile Lys Gly Gly  Ala Asn Leu
    1940                1945                1950


Leu Ile  Lys Glu Asp Met Ile  Ile Asp Arg Ile Asn  Glu Asn Ser
    1955                1960                1965


Ile Thr  Glu Lys Thr Asp Leu  Thr Met Ser Thr Ala  Ala Cys Pro
    1970                1975                1980


Pro Ser  Tyr Asp Arg Val Thr  Lys Pro Ile Val Glu  Lys His Glu
    1985                1990                1995


Gln Glu  Gly Lys Asp Glu Lys  Ala Lys Gly Lys
    2000                2005
```

<210> 181
<211> 593
<212> PRT
<213> Homo sapiens

<400> 181

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Met Trp Thr Leu Val Ser Trp Val Ala Leu Thr Ala Gly Leu Val Ala
1               5                   10                  15


Gly Thr Arg Cys Pro Asp Gly Gln Phe Cys Pro Val Ala Cys Cys Leu
            20                  25                  30


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


Trp Pro Thr Thr Leu Ser Arg His Leu Gly Gly Pro Cys Gln Val Asp
    50                  55                  60


Ala His Cys Ser Ala Gly His Ser Cys Ile Phe Thr Val Ser Gly Thr
65                  70                  75                  80
```

```
Ser Ser Cys Cys Pro Phe Pro Glu Ala Val Ala Cys Gly Asp Gly His
                85                  90                  95

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

Phe Gln Arg Ser Gly Asn Asn Ser Val Gly Ala Ile Gln Cys Pro Asp
        115                 120                 125

Ser Gln Phe Glu Cys Pro Asp Phe Ser Thr Cys Cys Val Met Val Asp
    130                 135                 140

Gly Ser Trp Gly Cys Cys Pro Met Pro Gln Ala Ser Cys Cys Glu Asp
145                 150                 155                 160

Arg Val His Cys Cys Pro His Gly Ala Phe Cys Asp Leu Val His Thr
                165                 170                 175

Arg Cys Ile Thr Pro Thr Gly Thr His Pro Leu Ala Lys Lys Leu Pro
            180                 185                 190

Ala Gln Arg Thr Asn Arg Ala Val Ala Leu Ser Ser Ser Val Met Cys
        195                 200                 205

Pro Asp Ala Arg Ser Arg Cys Pro Asp Gly Ser Thr Cys Cys Glu Leu
    210                 215                 220

Pro Ser Gly Lys Tyr Gly Cys Cys Pro Met Pro Asn Ala Thr Cys Cys
225                 230                 235                 240

Ser Asp His Leu His Cys Cys Pro Gln Asp Thr Val Cys Asp Leu Ile
                245                 250                 255

Gln Ser Lys Cys Leu Ser Lys Glu Asn Ala Thr Thr Asp Leu Leu Thr
            260                 265                 270

Lys Leu Pro Ala His Thr Val Gly Asp Val Lys Cys Asp Met Glu Val
        275                 280                 285

Ser Cys Pro Asp Gly Tyr Thr Cys Cys Arg Leu Gln Ser Gly Ala Trp
```

```
    290                 295                 300

Gly Cys Cys Pro Phe Thr Gln Ala Val Cys Cys Glu Asp His Ile His
305                 310                 315                 320

Cys Cys Pro Ala Gly Phe Thr Cys Asp Thr Gln Lys Gly Thr Cys Glu
                325                 330                 335

Gln Gly Pro His Gln Val Pro Trp Met Glu Lys Ala Pro Ala His Leu
            340                 345                 350

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

Val Ser Ser Cys Pro Ser Ser Asp Thr Cys Cys Gln Leu Thr Ser Gly
    370                 375                 380

Glu Trp Gly Cys Cys Pro Ile Pro Glu Ala Val Cys Cys Ser Asp His
385                 390                 395                 400

Gln His Cys Cys Pro Gln Gly Tyr Thr Cys Val Ala Glu Gly Gln Cys
                405                 410                 415

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

Arg Ala Ser Leu Ser His Pro Arg Asp Ile Gly Cys Asp Gln His Thr
        435                 440                 445

Ser Cys Pro Val Gly Gln Thr Cys Cys Pro Ser Leu Gly Gly Ser Trp
    450                 455                 460

Ala Cys Cys Gln Leu Pro His Ala Val Cys Cys Glu Asp Arg Gln His
465                 470                 475                 480

Cys Cys Pro Ala Gly Tyr Thr Cys Asn Val Lys Ala Arg Ser Cys Glu
                485                 490                 495

Lys Glu Val Val Ser Ala Gln Pro Ala Thr Phe Leu Ala Arg Ser Pro
            500                 505                 510
```

His Val Gly Val Lys Asp Val Glu Cys Gly Glu Gly His Phe Cys His
515 520 525

Asp Asn Gln Thr Cys Cys Arg Asp Asn Arg Gln Gly Trp Ala Cys Cys
530 535 540

Pro Tyr Arg Gln Gly Val Cys Cys Ala Asp Arg Arg His Cys Cys Pro
545 550 555 560

Ala Gly Phe Arg Cys Ala Ala Arg Gly Thr Lys Cys Leu Arg Arg Glu
565 570 575

Ala Pro Arg Trp Asp Ala Pro Leu Arg Asp Pro Ala Leu Arg Gln Leu
580 585 590

Leu

<210> 182
<211> 56
<212> DNA
<213> Artificial Sequence

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

<400> 182
gtaaggtaag aattgaattt ctcagttgaa ggatgcttac actcttgtcc atctag 56

<210> 183
<211> 2051
<212> DNA
<213> Artificial Sequence

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

<400> 183
ggaggaagcc atcaactaaa ctacaatgac tgtaagatac aaaattggga atggtaacat 60

attttgaagt tctgttgaca taaagaatca tgatattaat gcccatggaa atgaaagggc 120

gatcaacact atggtttgaa aaggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

gtgtgagccc agatgaggtt cagctgccaa ctttctcttt cacatcttat gaaagtcatt 300

taagcacaac taacttttt ttttttttt ttttttgag acagagtctt gctctgttgc 360

ccaggacaga gtgcagtagt gactcaatct cggctcactg cagcctccac ctcctaggct 420

caaacggtcc tcctgcatca gcctcccaag tagctggaat tacaggagtg gcccaccatg 480

cccagctaat ttttgtattt ttaatagata cgggggtttc accatatcac ccaggctggt 540

ctcgaactcc tggcctcaag tgatccacct gcctcggcct cccaaagtgc tgggattata 600

ggcgtcagcc actatgccca acccgaccaa ccttttttaa aataaatatt taaaaaattg 660

gtatttcaca tatatactag tatttacatt tatccacaca aaacggacgg gcctccgctg 720

aaccagtgag gccccagacg tgcgcataaa taacccctgc gtgctgcacc acctggggag 780

agggggagga ccacggtaaa tggagcgagc gcatagcaaa agggacgcgg ggtccttttc 840

tctgccggtg gcactgggta gctgtggcca ggtgtggtac tttgatgggg cccagggctg 900

gagctcaagg aagcgtcgca gggtcacaga tctgggggaa ccccggggaa aagcactgag 960

gcaaaaccgc cgctcgtctc ctacaatata tgggaggggg aggttgagta cgttctggat 1020

tactcataag acctttttt tttccttccg ggcgcaaaac cgtgagctgg atttataatc 1080

gccctataaa gctccagagg cggtcaggca cctgcagagg agccccgccg ctccgccgac 1140

tagctgcccc cgcgagcaac ggcctcgtga tttccccgcc gatccggtcc ccgcctcccc 1200

actctgcccc cgcctacccc ggagccgtgc agccgcctct ccgaatctct ctcttctcct 1260

ggcgctcgcg tgcgagaggg aactagcgag aacgaggaag cagctggagg tgacgccggg 1320

cagattacgc ctgtcagggc cgagccgagc ggatcgctgg gcgctgtgca gaggaaaggc 1380

gggagtgccc ggctcgctgt cgcagagccg aggtgggtaa gctagcgacc acctggactt 1440

cccagcgccc aaccgtggct tttcagccag gtcctctcct cccgcggctt ctcaaccaac 1500

cccatcccag cgccggccac ccaacctccc gaaatgagtg cttcctgccc cagcagccga 1560

aggcgctact aggaacggta acctgttact tttccagggg ccgtagtcga cccgctgccc 1620

gagttgctgt gcgactgcgc gcgcggggct agagtgcaag gtgactgtgg ttcttctctg 1680

gccaagtccg agggagaacg taaagatatg ggccttttтc cccctctcac cttgtctcac 1740

caaagtccct agtccccgga gcagttagcc tctttctttc cagggaatta gccagacaca 1800

acaacgggaa ccagacaccg aaccagacat gcccgccccg tgcgccctcc ccgctcgctg 1860

cctttcctcc ctcttgtctc tccagagccg gatcttcaag gggagcctcc gtgccccggg 1920

ctgctcagtc cctccggtgt gcaggacccc ggaagtcctc cccgcacagc tctcgcttct 1980

ctttgcagcc tgtttctgcg ccggaccagt cgaggactct ggacagtaga ggccccggga 2040

cgaccgagct g 2051

<210> 184
<211> 1878
<212> DNA
<213> Artificial Sequence

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

<400> 184
tcaacagggg gacacttggg aaagaaggat ggggacagag ccgagaggac tgttacacat 60

tagagaaaca tcagtgactg tgccagcttt ggggtagact gcacaaaagc cctgaggcag 120

cacaggcagg atccagtctg ctggtcccag gaagctaacc gtctcagaca gagcacaaag 180

caccgagaca tgtgccacaa ggcttgtgta gagaggtcag aggacagcgt acaggtccca 240

gagatcaaac tcaacctcac caggcttggc agcaagcctt taccaaccca cccccacccc 300

acccaccctg cacgcgcccc tctcccctcc ccatggtctc ccatggctat ctcacttggc 360

cctaaaatgt ttaaggatga cactggctgc tgagtggaaa tgagacagca gaagtcaaca 420

gtagatttta ggaaagccag agaaaaaggc ttgtgctgtt tttagaaagc caagggacaa 480

gctaagatag ggcccaagta atgctagtat ttacatttat ccacacaaaa cggacgggcc 540

tccgctgaac cagtgaggcc ccagacgtgc gcataaataa cccctgcgtg ctgcaccacc 600

tggggagagg gggaggacca cggtaaatgg agcgagcgca tagcaaaagg gacgcggggt 660

ccttttctct gccggtggca ctgggtagct gtggccaggt gtggtacttt gatggggccc 720

agggctggag ctcaaggaag cgtcgcaggg tcacagatct gggggaaccc cggggaaaag 780

cactgaggca aaaccgccgc tcgtctccta caatatatgg gagggggagg ttgagtacgt 840

tctggattac tcataagacc ttttttttt ccttccgggc gcaaaaccgt gagctggatt 900

tataatcgcc ctataaagct ccagaggcgg tcaggcacct gcagaggagc cccgccgctc 960

cgccgactag ctgcccccgc gagcaacggc ctcgtgattt ccccgccgat ccggtccccg 1020

cctccccact ctgcccccgc ctaccccgga gccgtgcagc cgcctctccg aatctctctc 1080

ttctcctggc gctcgcgtgc gagagggaac tagcgagaac gaggaagcag ctggaggtga 1140

cgccgggcag attacgcctg tcagggccga gccgagcgga tcgctgggcg ctgtgcagag 1200

gaaaggcggg agtgcccggc tcgctgtcgc agagccgagg tgggtaagct agcgaccacc 1260

tggacttccc agcgcccaac cgtggctttt cagccaggtc ctctcctccc gcggcttctc 1320

aaccaacccc atcccagcgc cggccaccca acctcccgaa atgagtgctt cctgccccag 1380

cagccgaagg cgctactagg aacggtaacc tgttactttt ccaggggccg tagtcgaccc 1440

gctgcccgag ttgctgtgcg actgcgcgcg cggggctaga gtgcaaggtg actgtggttc 1500

ttctctggcc aagtccgagg gagaacgtaa agatatgggc ctttttcccc ctctcacctt 1560

gtctcaccaa agtccctagt ccccggagca gttagcctct ttctttccag ggaattagcc 1620

agacacaaca acgggaacca gacaccgaac cagacatgcc cgccccgtgc gccctccccg 1680

ctcgctgcct ttcctccctc ttgtctctcc agagccggat cttcaagggg agcctccgtg 1740

cccccggctg ctcagtccct ccggtgtgca ggaccccgga agtcctcccc gcacagctct 1800

cgcttctctt tgcagcctgt ttctgcgccg gaccagtcga ggactctgga cagtagaggc 1860

cccgggacga ccgagctg 1878

<210> 185
<211> 681
<212> DNA
<213> Artificial Sequence

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

<400> 185
ggaggaagcc atcaactaaa ctacaatgac tgtaagatac aaaattggga atggtaacat 60

attttgaagt tctgttgaca taaagaatca tgatattaat gcccatggaa atgaaagggc 120

gatcaacact atggtttgaa aaggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

gtgtgagccc agatgaggtt cagctgccaa ctttctcttt cacatcttat gaaagtcatt 300

taagcacaac taacttttt ttttttttt tttttttgag acagagtctt gctctgttgc 360

ccaggacaga gtgcagtagt gactcaatct cggctcactg cagcctccac ctcctaggct 420

caaacggtcc tcctgcatca gcctcccaag tagctggaat tacaggagtg gcccaccatg 480

cccagctaat ttttgtattt ttaatagata cgggggtttc accatatcac ccaggctggt 540

ctcgaactcc tggcctcaag tgatccacct gcctcggcct cccaaagtgc tgggattata 600

ggcgtcagcc actatgccca acccgaccaa ccttttttaa aataaatatt taaaaaattg 660

gtatttcaca tatatactag t 681

<210> 186
<211> 1335
<212> DNA
<213> Artificial Sequence

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

<400> 186
gagtaattca tacaaaagga ctcgcccctg ccttggggaa tcccagggac cgtcgttaaa 60

ctcccactaa cgtagaaccc agagatcgct gcgttcccgc cccctcaccc gcccgctctc 120

gtcatcactg aggtggagaa gagcatgcgt gaggctccgg tgcccgtcag tgggcagagc 180

gcacatcgcc cacagtcccc gagaagttgg ggggaggggt cggcaattga accggtgcct 240

agagaaggtg gcgcggggta aactgggaaa gtgatgtcgt gtactggctc cgccttttc 300

ccgagggtgg gggagaaccg tatataagtg cagtagtcgc cgtgaacgtt ctttttcgca 360

acgggtttgc cgccagaaca caggtaagtg ccgtgtgtgg ttcccgcggg cctggcctct 420

ttacgggtta tggcccttgc gtgccttgaa ttacttccac gcccctggct gcagtacgtg 480

attcttgatc ccgagcttcg ggttggaagt gggtgggaga gttcgaggcc ttgcgcttaa 540

ggagcccctt cgcctcgtgc ttgagttgag gcctggcttg ggcgctgggg ccgccgcgtg 600

cgaatctggt ggcaccttcg cgcctgtctc gctgctttcg ataagtctct agccatttaa 660

aatttttgat gacctgctgc gacgcttttt ttctggcaag atagtcttgt aaatgcgggc 720

caagatctgc acactggtat ttcggttttt ggggccgcgg gcggcgacgg ggcccgtgcg 780

tcccagcgca catgttcggc gaggcggggc ctgcgagcgc ggccaccgag aatcggacgg 840

gggtagtctc aagctggccg gcctgctctg gtgcctggcc tcgcgccgcc gtgtatcgcc 900

ccgccctggg cggcaaggct ggcccggtcg gcaccagttg cgtgagcgga aagatggccg 960

cttcccggcc ctgctgcagg gagctcaaaa tggaggacgc ggcgctcggg agagcgggcg 1020

ggtgagtcac ccacacaaag gaaaagggcc tttccgtcct cagccgtcgc ttcatgtgac 1080

tccacggagt accgggcgcc gtccaggcac ctcgattagt tctcgagctt ttggagtacg 1140

tcgtctttag gttgggggga ggggttttat gcgatggagt ttccccacac tgagtgggtg 1200

gagactgaag ttaggccagc ttggcacttg atgtaattct ccttggaatt tgccctttt 1260

gagtttggat cttggttcat tctcaagcct cagacagtgg ttcaaagttt ttttcttcca 1320

tttcaggtgt cgtga 1335

<210> 187
<211> 1366
<212> DNA
<213> Artificial Sequence

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

<400> 187
gagtttactc cctatcagtg atagagaacg tatgtcgagt ttactcccta tcagtgatag 60

agaacgatgt cgagtttact ccctatcagt gatagagaac gtatgtcgag tttactccct 120

atcagtgata gagaacgtat gtcgagttta ctccctatca gtgatagaga acgtatgtcg 180

agtttatccc tatcagtgat agagaacgta tgtcgagttt actccctatc agtgatagag 240

aacgtatgtc gaggtaggcg tgtacggtgg gaggcctata taagcagagc tcgtttagtg 300

aaccgtcaga tcgccgaatt cgccaccatg gtgagcaagg gcgaggagct gttcaccggg 360

gtggtgccca tcctggtcga gctggacggc gacgtaaacg gccacaagtt cagcgtgtcc 420

ggcgagggcg agggcgatgc cacctacggc aagctgaccc tgaagttcat ctgcaccacc 480

ggcaagctgc ccgtgccctg gcccaccctc gtgaccaccc tgacctacgg cgtgcagtgc 540

ttcagccgct accccgacca catgaagcag cacgacttct tcaagtccgc catgcccgaa 600

ggctacgtcc aggagcgcac catcttcttc aaggacgacg gcaactacaa gacccgcgcc 660

gaggtgaagt tcgagggcga caccctggtg aaccgcatcg agctgaaggg catcgacttc 720

aaggaggacg gcaacatcct ggggcacaag ctggagtaca actacaacag ccacaacgtc 780

tatatcatgg ccgacaagca gaagaacggc atcaaggtga acttcaagat ccgccacaac 840

atcgaggacg gcagcgtgca gctcgccgac cactaccagc agaacacccc catcggcgac 900

ggccccgtgc tgctgcccga caaccactac ctgagcaccc agtccgccct gagcaaagac 960

cccaacgaga agcgcgatca catggtcctg ctggagttcg tgaccgccgc cgggatcact 1020

ctcggcatgg acgagctgta caagtccgga ctcagatctc gagaggagga ggaggagaca 1080

gacagcagga tgccccacct cgacagcccc ggcagctccc agccgagacg ctccttcctc 1140

tcaagggtga tcagggcagc tctaccgttg cagctgcttc tgctgctgct gctgctcctg 1200

gcctgcctgc tacctgcctc tgaagatgac tacagctgca cccaggccaa caactttgcc 1260

cgatccttct accccatgct gcggtacacc aacgggccac ctcccaccta gactagtaat 1320

aaaagatctt tattttcatt agatctgtgt gttggttttt tgtgtg 1366

<210> 188
<211> 315
<212> DNA
<213> Artificial Sequence

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

<400> 188
gagtttactc cctatcagtg atagagaacg tatgtcgagt ttactcccta tcagtgatag 60

agaacgatgt cgagtttact ccctatcagt gatagagaac gtatgtcgag tttactccct 120

atcagtgata gagaacgtat gtcgagttta ctccctatca gtgatagaga acgtatgtcg 180

agtttatccc tatcagtgat agagaacgta tgtcgagttt actccctatc agtgatagag 240

aacgtatgtc gaggtaggcg tgtacggtgg gaggcctata taagcagagc tcgtttagtg 300

aaccgtcaga tcgcc 315

<210> 189

<400> 189
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<210> 190
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
primer

<400> 190
tgtctcggca ttgagaacat tc 22

<210> 191
<211> 21
<212> DNA
<213> Artificial Sequence

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

<400> 191
attggtggga ggccattgta t 21

<210> 192
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 192
accacagtcc atgccatcac 20

<210> 193
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 193
tccaccaccc tgttgctgta 20

<210> 194

<400> 194
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<210> 195
<211> 21

<212> DNA
<213> Homo sapiens

<400> 195
cactcattga ggacagaagc a 21

<210> 196
<211> 21
<212> DNA
<213> Homo sapiens

<400> 196
acaaagtgga gagactaccc g 21

<210> 197
<211> 21
<212> DNA
<213> Homo sapiens

<400> 197
ggtacgggca aagatttctt g 21

<210> 198
<211> 21
<212> DNA
<213> Homo sapiens

<400> 198
tttgcccgta ccaaagtctt g 21

<210> 199
<211> 21
<212> DNA
<213> Homo sapiens

<400> 199
tcttcagcca caaaaaaaaa a 21

<210> 200
<211> 21
<212> DNA
<213> Homo sapiens

<400> 200
gtgtgcaacc catgaggtcg c 21

<210> 201
<211> 21

<212> DNA
<213> Homo sapiens

<400> 201
acacaatgag ccacctacaa g 21

<210> 202
<211> 21
<212> DNA
<213> Homo sapiens

<400> 202
gtggctcatt gtgtgtgtgc c 21

<210> 203
<211> 21
<212> DNA
<213> Homo sapiens

<400> 203
agaaagctga tacagataca a 21

<210> 204

<400> 204
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<210> 205
<211> 21
<212> DNA
<213> Homo sapiens

<400> 205
aaaccagcaa caaacagtat a 21

<210> 206
<211> 21
<212> DNA
<213> Homo sapiens

<400> 206
gagaatcatc taggtcagga c 21

<210> 207
<211> 21
<212> DNA
<213> Homo sapiens

<400> 207
ttctcagttt tgaaattaaa a 21

<210> 208
<211> 21
<212> DNA
<213> Homo sapiens

<400> 208
catatccctg caggttcaga a 21

<210> 209
<211> 21
<212> DNA
<213> Homo sapiens

<400> 209
tggattctct tctgaacctg c 21

<210> 210
<211> 21
<212> DNA
<213> Homo sapiens

<400> 210
agagagagag agagagagag a 21

<210> 211
<211> 21
<212> DNA
<213> Homo sapiens

<400> 211
tggtctcatt ctttttgtgg g 21

<210> 212

<400> 212
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<210> 222

<400> 222
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<210> 223

<400> 223
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<210> 224
<211> 21
<212> DNA
<213> Homo sapiens

<400> 224
tgttcctcca gattaacact t 21

<210> 225
<211> 21
<212> DNA
<213> Homo sapiens

<400> 225
attacagttc tgtcagcatg c 21

<210> 226
<211> 21
<212> DNA
<213> Homo sapiens

<400> 226
atcatctgta accatcaagg a 21

<210> 227
<211> 21
<212> DNA
<213> Homo sapiens

<400> 227
tcctgcctac ttagtttcaa g 21

<210> 228
<211> 21
<212> DNA
<213> Homo sapiens

<400> 228
tgctgaggca ggacacagtg t 21

<210> 229
<211> 21
<212> DNA
<213> Homo sapiens

<400> 229
acaaagtaag tgtcagtgtg g 21

<210> 230
<211> 21
<212> DNA
<213> Homo sapiens

<400> 230
ctgacactta ctttgtctaa a 21

<210> 231
<211> 21
<212> DNA
<213> Homo sapiens

<400> 231
ataatagttg tgtctttata a 21

<210> 232
<211> 21
<212> DNA
<213> Homo sapiens

<400> 232
cgatattttc atggattcct t 21

<210> 233
<211> 21
<212> DNA
<213> Homo sapiens

<400> 233
aaaactggaa ccgcattccc a 21

<210> 234
<211> 21
<212> DNA
<213> Homo sapiens

<400> 234
tgtacaagca gggctgcaaa g 21

<210> 235
<211> 21
<212> DNA
<213> Homo sapiens

<400> 235
aaaggggaat gggaacaccc g 21

<210> 236
<211> 21
<212> DNA
<213> Homo sapiens

<400> 236
atgttcaagg tgcagaagga a 21

<210> 237
<211> 21
<212> DNA
<213> Homo sapiens

<400> 237
ttcaacaagc tcccaagaag t 21

<210> 238
<211> 21
<212> DNA
<213> Homo sapiens

<400> 238
gttaacaaat acactaaaca c 21

<210> 239

<400> 239
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<210> 240
<211> 21
<212> DNA
<213> Homo sapiens

<400> 240
aaaaccgtca accccataca g 21

<210> 241
<211> 21
<212> DNA
<213> Homo sapiens

<400> 241
aggaatcact tgtcagacct a 21

<210> 242
<211> 21
<212> DNA
<213> Homo sapiens

<400> 242
gagactgtgc gtataaaggc a 21

<210> 243
<211> 21
<212> DNA
<213> Homo sapiens

<400> 243
tactgataca ggaactgtgc c 21

<210> 244
<211> 21
<212> DNA
<213> Homo sapiens

<400> 244
cttgtcatga aacatgagct a 21

<210> 245
<211> 21
<212> DNA
<213> Homo sapiens

<400> 245
tatctgtatt ccttttattt t 21

<210> 246
<211> 21
<212> DNA
<213> Homo sapiens

<400> 246
ataaatggta attaaaatgt g 21

<210> 247
<211> 21
<212> DNA
<213> Homo sapiens

<400> 247
tgtttgctca aacgtgcacc a 21

<210> 248
<211> 21
<212> DNA
<213> Homo sapiens

<400> 248
aaatatgtac cacaagaaat g 21

<210> 249
<211> 21
<212> DNA
<213> Homo sapiens

<400> 249
tatctggttt ctctcactgc t 21

<210> 250
<211> 21
<212> DNA
<213> Homo sapiens

<400> 250
aaataagaca tgaaaacaag a 21

<210> 251
<211> 21
<212> DNA
<213> Homo sapiens

<400> 251
attgcaaagc ataatttgga t 21

<210> 252
<211> 21
<212> DNA
<213> Homo sapiens

<400> 252
caaactccca gcctgcctgg c 21

<210> 253
<211> 18
<212> DNA
<213> Homo sapiens

<400> 253
ccagcactgg tgcttcgt 18

<210> 254
<211> 18
<212> DNA
<213> Homo sapiens

<400> 254
aaggctgtct aggtcaag 18

<210> 255

<400> 255
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<210> 256
<211> 24
<212> DNA
<213> Homo sapiens

<400> 256
ctaggtcaag tgtaggagac acac 24

<210> 257
<211> 18
<212> DNA
<213> Homo sapiens

<400> 257
ggtcaagtgt aggagaca 18

<210> 258
<211> 18
<212> DNA
<213> Homo sapiens

<400> 258
caagtgtagg agacacac 18

<210> 259
<211> 24
<212> DNA
<213> Homo sapiens

<400> 259
agtgtaggag acacactgct ggcc 24

<210> 260
<211> 18

<212> DNA
<213> Homo sapiens

<400> 260
agtgtaggag acacactg 18

<210> 261
<211> 18
<212> DNA
<213> Homo sapiens

<400> 261
acttgaccta gacagcct 18

<210> 262
<211> 21
<212> DNA
<213> Homo sapiens

<400> 262
aggagacaca ctgctggcct g 21

<210> 263

<400> 263
000

<210> 264
<211> 18
<212> DNA
<213> Homo sapiens

<400> 264
tgaataactc attagtga 18

<210> 265
<211> 18
<212> DNA
<213> Homo sapiens

<400> 265
aaagtacatt aggctaat 18

<210> 266

<400> 266
000

<210> 267

<400> 267
000

<210> 268
<211> 231
<212> PRT
<213> Artificial Sequence

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

<400> 268
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Asp Pro Gly His Leu Val Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
50 55 60

Lys Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Asn Asp Ala Leu
85 90 95

Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Glu Arg Ser His Leu Arg Glu His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Ser Lys Lys His Leu Ala Glu His Gln Arg Thr His Thr

145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
165 170 175

His Leu Asp Leu Ile Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
180 185 190

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu
195 200 205

Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser Lys Arg Pro
210 215 220

Ala Ala Thr Lys Lys Ala Gly
225 230

<210> 269
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 269
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Arg Arg Thr Cys Arg Ala His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
50 55 60

Thr Gly Ala Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu

85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Arg Asn Asp Ala Leu Thr Glu His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Gln Ser Gly Asp Leu Arg Arg His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
165 170 175

Ser His Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
195 200

<210> 270
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 270
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Lys Asp Asn Leu Lys Asn His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp

50 55 60

Pro Gly Ala Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
85 90 95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Thr Ser Gly Glu Leu Val Arg His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
165 170 175

Lys Asp Asn Leu Lys Asn His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
195 200

<210> 271
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 271
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys

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            20                  25                  30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50                  55                  60

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu
                85                  90                  95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175

Asn Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225                 230                 235                 240
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Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 272
<211> 328
<212> PRT
<213> Artificial Sequence

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

<400> 272
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
50 55 60

Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

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Ser Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160


Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175


Ser Gly Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro
            180                 185                 190


Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly His Leu
        195                 200                 205


Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
    210                 215                 220


Glu Cys Gly Lys Ser Phe Ser Gln Asn Ser Thr Leu Thr Glu His Gln
225                 230                 235                 240


Arg Thr His Thr Gly Lys Lys Thr Ser Lys Arg Pro Ala Ala Thr Lys
                245                 250                 255


Lys Ala Gly Gln Ala Lys Lys Lys Lys Gly Ser Tyr Pro Tyr Asp Val
            260                 265                 270


Pro Asp Tyr Ala Leu Glu Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
        275                 280                 285


Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser
    290                 295                 300


Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
305                 310                 315                 320


Asp Asp Phe Asp Leu Asp Met Leu
                325
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<210> 273
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 273
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
50 55 60

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
85 90 95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
165 170 175

Ser Gly His Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly

195 200

<210> 274
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 274
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
50 55 60

Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln

```
                165                 170                 175

Ser Gly Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
        195                 200


<210> 275
<211> 259
<212> PRT
<213> Artificial Sequence

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

<400> 275
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30

Ser Phe Ser Asp Cys Arg Asp Leu Ala Arg His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50                  55                  60

Asn Asp Ala Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Asn Asp Ala Leu
                85                  90                  95

Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
```

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    130                 135                 140

Ser Phe Ser Asp Pro Gly Asn Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175

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

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
        195                 200                 205

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
    210                 215                 220

Glu Cys Gly Lys Ser Phe Ser His Arg Thr Thr Leu Thr Asn His Gln
225                 230                 235                 240

Arg Thr His Thr Gly Lys Lys Thr Ser Lys Arg Pro Ala Ala Thr Lys
                245                 250                 255

Lys Ala Gly



<210> 276
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 276
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30

Ser Phe Ser Arg Asn Asp Ala Leu Thr Glu His Gln Arg Thr His Thr
```

```
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser
    50                  55                  60

Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro Gly Asn Leu
                85                  90                  95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Gln Arg Ala His Leu Glu Arg His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
                165                 170                 175

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
        195                 200


<210> 277
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 277
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
```

1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

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

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
50 55 60

Ala Asp Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu
85 90 95

Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr Lys Asn Ser Leu Thr Glu His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
165 170 175

His Leu Asp Leu Ile Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
195 200

<210> 278
<211> 231
<212> PRT

<213> Artificial Sequence

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

<400> 278
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Asn Asp Ala Leu Thr Glu His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
50 55 60

Pro Gly His Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Glu Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
165 170 175

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

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp His Leu
195 200 205

Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser Lys Arg Pro
210 215 220

Ala Ala Thr Lys Lys Ala Gly
225 230

<210> 279
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 279
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
50 55 60

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
85 90 95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln
115 120 125

```
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225                 230                 235                 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
                245                 250                 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
            260                 265                 270


<210> 280
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 280
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30
```

```
Ser Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50                  55                  60

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asp Leu
                85                  90                  95

Arg Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225                 230                 235                 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
```

245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 281
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 281
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
50 55 60

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Asn Leu
85 90 95

Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Gln Lys Ser Ser Leu Ile Ala His Gln Arg Thr His Thr

145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
165 170 175

Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
195 200

<210> 282
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 282
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Thr Thr Gly Asn Leu Thr Val His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
50 55 60

Ser Gly Glu Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
85 90 95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Asn Leu Thr Glu His Gln

```
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175

Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly
        195                 200
```

<210> 283
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 283
ggtcacgtac agcttcgcat 20

<210> 284
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 284
ctggtttctg gctcgtggag 20

<210> 285
<211> 19
<212> DNA
<213> Artificial Sequence

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

<400> 285
aagccccaaa gccaagcag 19

<210> 286
<211> 19
<212> DNA
<213> Artificial Sequence

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

<400> 286
aggtgtggca ttgaaacgg 19

<210> 287
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 287
atggtcagtt ctgccctgtg 20

<210> 288
<211> 21
<212> DNA
<213> Artificial Sequence

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

<400> 288
cggtaaagat gcaggagtgg c 21

<210> 289
<211> 20
<212> DNA
<213> Artificial Sequence

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

primer

<400> 289
tgacaatggg cagaacgaat 20

<210> 290
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 290
tgcagcactc tgttgacgtt 20

<210> 291
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 291
tgttgccact ggtgctaaag 20

<210> 292
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 292
acagcagtct tctccgcttc 20

<210> 293
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 293
caaaaaagcc acaaaagcct 20

<210> 294
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 294
ttagctccgc aagaaacatc 20

<210> 295
<211> 667
<212> PRT
<213> Artificial Sequence

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

<400> 295
Met Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Gly Tyr Pro Tyr Asp Val
1 5 10 15

Pro Asp Tyr Ala Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Gly
20 25 30

Ser Gly Ser Gly Ser Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser
35 40 45

Pro Leu Gln Ile Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr
50 55 60

Met Asp Asn Tyr Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly
65 70 75 80

Ala Pro Gln Phe Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser
85 90 95

Asn Ser Ser Ser Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly
100 105 110

```
Ser Asn Ser Ser Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr
        115                 120                 125

Gly Glu Gln Pro Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile
    130                 135                 140

Ser Leu Asn Asn Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln
145                 150                 155                 160

Thr Thr Arg Leu Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu
                165                 170                 175

Pro Ala Pro Asn Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser
            180                 185                 190

Leu Val Ser Gly Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser
        195                 200                 205

Ser Ala Pro Ser Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro
    210                 215                 220

Pro Leu Ser Cys Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser
225                 230                 235                 240

Ala Ala Pro Thr Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro
                245                 250                 255

Gln Ser Gln Ala Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro
            260                 265                 270

Pro Pro Ala Tyr Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile
        275                 280                 285

Pro Asp Tyr Leu Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr
    290                 295                 300

Pro Asp Gln Lys Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro
305                 310                 315                 320

Ser Leu Thr Pro Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly
```

```
                325                 330                 335

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

Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro
        355                 360                 365

Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg
    370                 375                 380

Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly
385                 390                 395                 400

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu
                405                 410                 415

Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
            420                 425                 430

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val
        435                 440                 445

Arg His Thr Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys
    450                 455                 460

Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr
465                 470                 475                 480

Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile
                485                 490                 495

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

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
        515                 520                 525

Phe Ala Gln Asn Ser Thr Leu Thr Glu His Thr Lys Ile His Leu Arg
    530                 535                 540
```

Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr
545 550 555 560

Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser
565 570 575

Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser
580 585 590

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

Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser
610 615 620

Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser
625 630 635 640

Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr
645 650 655

Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
660 665

<210> 296
<211> 719
<212> PRT
<213> Artificial Sequence

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

<400> 296
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

```
Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
```

```
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Asp Pro
            340                 345                 350

Gly Ala Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp Asn Leu Val
    370                 375                 380

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

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

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Thr His Leu Asp Leu Ile Arg His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr Gly
465                 470                 475                 480
```

```
Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser
                485                 490                 495

Asp Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp Arg
            500                 505                 510

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln Ser
        515                 520                 525

Gly His Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
    530                 535                 540

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Glu Arg Ser His Leu Arg
545                 550                 555                 560

Glu His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
                565                 570                 575

Cys Gly Arg Lys Phe Ala Gln Ala Gly His Leu Ala Ser His Thr Lys
            580                 585                 590

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
        595                 600                 605

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
    610                 615                 620

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
625                 630                 635                 640

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
                645                 650                 655

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
            660                 665                 670

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
        675                 680                 685

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
```

690 695 700

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
705 710 715

<210> 297
<211> 197
<212> PRT
<213> Artificial Sequence

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

<400> 297
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
1 5 10 15

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
20 25 30

Asp Asn Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
35 40 45

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Ser Thr Thr Leu Thr
50 55 60

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
65 70 75 80

Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Arg Lys Thr His Ile Arg
85 90 95

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
100 105 110

Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly
115 120 125

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser
130 135 140

Ser Ser Leu Thr Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe

145 150 155 160

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Arg Lys
165 170 175

Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
180 185 190

Ser Val Val Ala Ser
195

<210> 298
<211> 197
<212> PRT
<213> Artificial Sequence

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

<400> 298
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
1 5 10 15

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
20 25 30

Asp Asn Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
35 40 45

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp Asn Leu Thr
50 55 60

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
65 70 75 80

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Ile Arg
85 90 95

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
100 105 110

Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly

115 120 125

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
130 135 140

Gly His Leu Thr Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
145 150 155 160

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Ser Ser Thr Arg Lys
165 170 175

Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
180 185 190

Ser Val Val Ala Ser
195

<210> 299
<211> 627
<212> PRT
<213> Artificial Sequence

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

<400> 299
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro

```
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu
    290                 295                 300
```

```
Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
305                 310                 315                 320

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His
    370                 375                 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ile Arg
                405                 410                 415

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
            420                 425                 430

Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly
        435                 440                 445

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
    450                 455                 460

Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
465                 470                 475                 480

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr
                485                 490                 495

Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
            500                 505                 510

Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser
```

515 520 525

Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser
530 535 540

Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser
545 550 555 560

Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser
565 570 575

Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala
580 585 590

Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala
595 600 605

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

Glu Ile Cys
625

<210> 300

<400> 300
000

<210> 301

<400> 301
000

<210> 302

<400> 302
000

<210> 303

<400> 303
000

<210> 304

<400> 304
000

<210> 305
<211> 753
<212> PRT
<213> Artificial Sequence

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

<400> 305
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1   5   10   15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20   25   30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
        35   40   45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50   55   60

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
65   70   75   80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu
                85   90   95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100   105   110

Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln
        115   120   125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130   135   140

Ser Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr

```
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175

Asn Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Glu Ala
    210                 215                 220

Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
225                 230                 235                 240

Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser
                245                 250                 255

Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
            260                 265                 270

Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser Gly Ser
        275                 280                 285

Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp
    290                 295                 300

Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe
305                 310                 315                 320

Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg
                325                 330                 335

Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val
            340                 345                 350

Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr
        355                 360                 365
```

```
Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile
    370                 375                 380

Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln
385                 390                 395                 400

Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln
                405                 410                 415

Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val
            420                 425                 430

Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser
        435                 440                 445

Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu
    450                 455                 460

Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val
465                 470                 475                 480

Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala
                485                 490                 495

Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr
            500                 505                 510

Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro
        515                 520                 525

Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp
    530                 535                 540

Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser Gly
545                 550                 555                 560

Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro Glu
                565                 570                 575

Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val Cys Gln
```

580 585 590

Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala Asn
595 600 605

Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val His
610 615 620

Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu Asp
625 630 635 640

Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp Pro
645 650 655

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

Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met Asp
675 680 685

Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr Thr
690 695 700

Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro
705 710 715 720

Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu
725 730 735

His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu
740 745 750

Phe

<210> 306
<211> 272
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 306
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1   5   10   15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20   25   30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
        35   40   45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50   55   60

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
65   70   75   80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu
                85   90   95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100   105   110

Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln
        115   120   125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130   135   140

Ser Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr
145   150   155   160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165   170   175

Asn Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180   185   190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195   200   205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
210 215 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225 230 235 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 307
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 307
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
50 55 60

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

```
Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln
        115                 120                 125


Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140


Ser Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160


Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175


Asn Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190


Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205


Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220


Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225                 230                 235                 240


Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
                245                 250                 255


Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
            260                 265                 270


<210> 308
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 308
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15
```

```
Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50                  55                  60

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu
                85                  90                  95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175

Asn Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
```

225 230 235 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 309
<211> 753
<212> PRT
<213> Artificial Sequence

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

<400> 309
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
50 55 60

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
85 90 95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys

```
    130                 135                 140

Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Glu Ala
    210                 215                 220

Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
225                 230                 235                 240

Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser
                245                 250                 255

Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
            260                 265                 270

Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser Gly Ser
        275                 280                 285

Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp
    290                 295                 300

Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe
305                 310                 315                 320

Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg
                325                 330                 335

Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val
            340                 345                 350
```

```
Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr
        355                 360                 365

Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile
    370                 375                 380

Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln
385                 390                 395                 400

Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln
                405                 410                 415

Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val
            420                 425                 430

Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser
        435                 440                 445

Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu
    450                 455                 460

Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val
465                 470                 475                 480

Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala
                485                 490                 495

Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr
            500                 505                 510

Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro
        515                 520                 525

Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp
    530                 535                 540

Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser Gly
545                 550                 555                 560

Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro Glu
```

565 570 575

Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val Cys Gln
580 585 590

Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala Asn
595 600 605

Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val His
610 615 620

Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu Asp
625 630 635 640

Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp Pro
645 650 655

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

Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met Asp
675 680 685

Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr Thr
690 695 700

Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro
705 710 715 720

Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu
725 730 735

His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu
740 745 750

Phe

<210> 310
<211> 272
<212> PRT

<213> Artificial Sequence

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

<400> 310
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
50 55 60

Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
85 90 95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
165 170 175

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
195 200 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
210 215 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225 230 235 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 311
<211> 837
<212> PRT
<213> Artificial Sequence

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

<400> 311
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
50 55 60

Ser Asp His Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asp Leu
85 90 95

```
Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser His Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
            180                 185                 190

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu
        195                 200                 205

Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
    210                 215                 220

Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln
225                 230                 235                 240

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
                245                 250                 255

Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr
            260                 265                 270

Gly Lys Lys Thr Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln
        275                 280                 285

Ala Lys Lys Lys Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
    290                 295                 300

Leu Glu Glu Ala Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe
```

```
305                 310                 315                 320

Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp
                325                 330                 335

Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly
            340                 345                 350

Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg
        355                 360                 365

Ser Ser Gly Ser Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu
    370                 375                 380

Pro Asp Thr Asp Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr
385                 390                 395                 400

Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro
                405                 410                 415

Thr Asp Pro Arg Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser
            420                 425                 430

Ser Ala Ser Val Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser
        435                 440                 445

Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro
    450                 455                 460

Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln
465                 470                 475                 480

Val Leu Pro Gln Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser
                485                 490                 495

Ala Leu Ala Gln Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro
            500                 505                 510

Pro Gln Ala Val Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu
        515                 520                 525
```

```
Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp
    530                 535                 540

Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp
545                 550                 555                 560

Leu Ala Ser Val Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly
                565                 570                 575

Ile Pro Val Ala Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro
            580                 585                 590

Glu Ala Ile Thr Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro
        595                 600                 605

Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser
    610                 615                 620

Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu
625                 630                 635                 640

Leu Gly Ser Gly Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu
                645                 650                 655

Pro Lys Pro Glu Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg
            660                 665                 670

Glu Val Cys Gln Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser
        675                 680                 685

Pro Trp Ala Asn Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr
    690                 695                 700

Gly Pro Val His Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro
705                 710                 715                 720

Gln Pro Leu Asp Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu
                725                 730                 735

Leu Glu Asp Pro Asp Glu Glu Thr Ser Gln Ala Val Lys Ala Leu Arg
```

```
            740                 745                 750

Glu Met Ala Asp Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys
        755                 760                 765

Gly Gln Met Asp Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu
    770                 775                 780

Leu Thr Thr Thr Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser
785                 790                 795                 800

Pro Leu Thr Pro Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp
                805                 810                 815

Glu Cys Leu Leu His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe
            820                 825                 830

Asp Thr Ser Leu Phe
        835


<210> 312
<211> 356
<212> PRT
<213> Artificial Sequence

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

<400> 312
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30

Ser Phe Ser Arg Arg Asp Glu Leu Asn Val His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
    50                  55                  60

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

65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asp Leu
85 90 95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser His Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
165 170 175

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro
180 185 190

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu
195 200 205

Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
210 215 220

Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln
225 230 235 240

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
245 250 255

Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr
260 265 270

Gly Lys Lys Thr Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln
275 280 285

Ala Lys Lys Lys Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
290 295 300

Leu Glu Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp
305 310 315 320

Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp
325 330 335

Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp
340 345 350

Leu Asp Met Leu
355

<210> 313
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 313
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95

```
Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
```

```
305                 310                 315                 320

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His
    370                 375                 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn
                485                 490                 495

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

Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
        515                 520                 525
```

Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
530 535 540

Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545 550 555 560

Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
565 570 575

Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
580 585 590

Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
595 600 605

Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
610 615 620

Pro Arg Thr Ile Glu Ile Cys
625 630

<210> 314
<211> 631
<212> PRT
<213> Artificial Sequence

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

<400> 314
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

```
Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
```

```
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His
    370                 375                 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys
                405                 410                 415

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn
                485                 490                 495
```

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

Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser
515 520 525

Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr
530 535 540

Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr
545 550 555 560

Ser Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser
565 570 575

Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro
580 585 590

Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn
595 600 605

Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser
610 615 620

Pro Arg Thr Ile Glu Ile Cys
625 630

<210> 315
<211> 394
<212> PRT
<213> Artificial Sequence

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

<400> 315
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

```
Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35                  40                  45

Gly Ala Pro Leu Gly Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50                  55                  60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225                 230                 235                 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
```

245 250 255

Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His
260 265 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
275 280 285

Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
290 295 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305 310 315 320

Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
325 330 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His
340 345 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
355 360 365

Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His
370 375 380

Thr Lys Ile His Leu Arg Gln Lys Asp Lys
385 390

<210> 316
<211> 580
<212> PRT
<213> Artificial Sequence

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

<400> 316
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr

```
            20                  25                  30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35                  40                  45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50                  55                  60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225                 230                 235                 240
```

```
Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                245                 250                 255

Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His
            260                 265                 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        275                 280                 285

Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys
    290                 295                 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305                 310                 315                 320

Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
                325                 330                 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly His
            340                 345                 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
        355                 360                 365

Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu His
    370                 375                 380

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

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

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
            420                 425                 430

Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
        435                 440                 445

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
```

```
    450                 455                 460

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
465                 470                 475                 480

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
                485                 490                 495

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
            500                 505                 510

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

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
    530                 535                 540

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
545                 550                 555                 560

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
                565                 570                 575

Ser Val Ser Cys
            580


<210> 317
<211> 627
<212> PRT
<213> Artificial Sequence

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

<400> 317
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1               5                   10                  15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
            20                  25                  30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
```

```
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255
```

```
Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr
    370                 375                 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile Arg
                405                 410                 415

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
            420                 425                 430

Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly
        435                 440                 445

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser
    450                 455                 460

Ser Ser Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
```

```
465                 470                 475                 480

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His
                485                 490                 495

Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
            500                 505                 510

Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser
        515                 520                 525

Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser
    530                 535                 540

Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser
545                 550                 555                 560

Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser
                565                 570                 575

Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala
            580                 585                 590

Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala
        595                 600                 605

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

Glu Ile Cys
625


<210> 318
<211> 394
<212> PRT
<213> Artificial Sequence

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

<400> 318
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
```

```
1               5                   10                  15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
            20                  25                  30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35                  40                  45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50                  55                  60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195                 200                 205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
    210                 215                 220
```

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225 230 235 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
245 250 255

Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His
260 265 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
275 280 285

Arg Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys
290 295 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305 310 315 320

Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
325 330 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser
340 345 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
355 360 365

Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His
370 375 380

Thr Lys Ile His Leu Arg Gln Lys Asp Lys
385 390

<210> 319
<211> 580
<212> PRT
<213> Artificial Sequence

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

<400> 319
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1   5   10   15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
            20   25   30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35   40   45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50   55   60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65   70   75   80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85   90   95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100   105   110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115   120   125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130   135   140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145   150   155   160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165   170   175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180   185   190

Gly Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
        195   200   205

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val

```
    210                 215                 220

Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His
225                 230                 235                 240

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                245                 250                 255

Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His
            260                 265                 270

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        275                 280                 285

Arg Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys
    290                 295                 300

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
305                 310                 315                 320

Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys
                325                 330                 335

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser
            340                 345                 350

Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
        355                 360                 365

Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His
    370                 375                 380

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

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

Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu Pro Pro Tyr Ala
            420                 425                 430
```

```
Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly Ala Pro Leu Gly
        435                 440                 445

Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr Gly Ala Phe Gly
    450                 455                 460

Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro Pro Pro Ala Ala
465                 470                 475                 480

Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr Pro Gly Arg Ala
                485                 490                 495

Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly Pro Gln Pro Ala
            500                 505                 510

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

Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser Leu Glu Leu Glu
    530                 535                 540

Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu Phe Leu Gly Gln
545                 550                 555                 560

Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala Pro Pro Ala Gly
                565                 570                 575

Ser Val Ser Cys
            580
```

<210> 320
<211> 719
<212> PRT
<213> Artificial Sequence

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

<400> 320

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

```
Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
            20                  25                  30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
```

225 230 235 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
245 250 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
260 265 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
275 280 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
325 330 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg
340 345 350

Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
355 360 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
370 375 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385 390 395 400

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

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
420 425 430

Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile Arg
435 440 445

```
Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu
                485                 490                 495

Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Arg
            500                 505                 510

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr Ser
        515                 520                 525

His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
    530                 535                 540

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu Val
545                 550                 555                 560

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
                565                 570                 575

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys
            580                 585                 590

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
        595                 600                 605

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
    610                 615                 620

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
625                 630                 635                 640

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
                645                 650                 655

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
```

660 665 670

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
675 680 685

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
690 695 700

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
705 710 715

<210> 321
<211> 719
<212> PRT
<213> Artificial Sequence

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

<400> 321
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
100 105 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu

```
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335
```

```
Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg
            340                 345                 350

Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    370                 375                 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

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

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile Arg
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu
                485                 490                 495

Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Arg
            500                 505                 510

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr Ser
        515                 520                 525

His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
    530                 535                 540

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu Val
```

545 550 555 560

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
565 570 575

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys
580 585 590

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
595 600 605

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
610 615 620

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
625 630 635 640

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
645 650 655

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
660 665 670

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
675 680 685

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
690 695 700

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
705 710 715

<210> 322
<211> 719
<212> PRT
<213> Artificial Sequence

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

<400> 322
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile

```
1               5                   10                  15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
            20                  25                  30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220
```

```
Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Arg
            340                 345                 350

Asp Glu Leu Asn Val His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    370                 375                 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

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

Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser
            420                 425                 430

Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile Arg
```

```
        435                 440                 445

Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
    450                 455                 460

Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly
465                 470                 475                 480

Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu
                485                 490                 495

Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Arg
            500                 505                 510

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr Ser
        515                 520                 525

His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
    530                 535                 540

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu Val
545                 550                 555                 560

Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
                565                 570                 575

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys
            580                 585                 590

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala
        595                 600                 605

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr
    610                 615                 620

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr
625                 630                 635                 640

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser
                645                 650                 655
```

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala
660 665 670

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser
675 680 685

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu
690 695 700

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys
705 710 715

<210> 323
<211> 473
<212> PRT
<213> Artificial Sequence

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

<400> 323
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1 5 10 15

Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
20 25 30

Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
35 40 45

Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
50 55 60

Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65 70 75 80

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

Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
100 105 110

```
Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125

Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140

Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255

Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285

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

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Glu Asp Asn Leu
305                 310                 315                 320

His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
```

325 330 335

Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ala
340 345 350

Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys
355 360 365

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

His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe
385 390 395 400

Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
405 410 415

Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Asn Ser
420 425 430

Thr Leu Thr Glu His Ala Lys Ile His Leu Lys Gln Lys Glu Lys Lys
435 440 445

Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val Ser
450 455 460

Leu Ala Pro Val Val Thr Thr Cys Ala
465 470

<210> 324
<211> 386
<212> PRT
<213> Artificial Sequence

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

<400> 324
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr

```
            20                  25                  30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
        35                  40                  45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
    50                  55                  60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65                  70                  75                  80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
                85                  90                  95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
            100                 105                 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
        115                 120                 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
    130                 135                 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145                 150                 155                 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
                165                 170                 175

Ala Pro Pro Ala Gly Ser Val Ser Cys Gln Ser Gln Leu Ile Lys Pro
            180                 185                 190

Ser Arg Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His
        195                 200                 205

Glu Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
    210                 215                 220

Arg Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys
225                 230                 235                 240
```

```
Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr
                245                 250                 255

Leu Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
            260                 265                 270

Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His
        275                 280                 285

Thr Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val
    290                 295                 300

Glu Ser Cys Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr Glu His
305                 310                 315                 320

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
                325                 330                 335

Arg Asn Phe Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg Thr His
            340                 345                 350

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
        355                 360                 365

Arg Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys
    370                 375                 380

Asp Lys
385


<210> 325
<211> 627
<212> PRT
<213> Artificial Sequence

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

<400> 325
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1               5                   10                  15
```

```
Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
            20                  25                  30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
        35                  40                  45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
    50                  55                  60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65                  70                  75                  80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
                85                  90                  95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
```

225 230 235 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
245 250 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
260 265 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
275 280 285

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

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

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
325 330 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
340 345 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
355 360 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr
370 375 380

Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385 390 395 400

Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile Arg
405 410 415

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
420 425 430

Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly
435 440 445

```
Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser
    450                 455                 460

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

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His
                485                 490                 495

Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
            500                 505                 510

Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser
        515                 520                 525

Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser
    530                 535                 540

Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser
545                 550                 555                 560

Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser
                565                 570                 575

Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala
            580                 585                 590

Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala
        595                 600                 605

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

Glu Ile Cys
625
```

<210> 326
<211> 62
<212> DNA
<213> Artificial Sequence

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

<400> 326
aataaaagat ctttattttc attagatctg tgtgttggtt ttttgtgtgc ggaccgcacg 60

tg 62

<210> 327
<211> 477
<212> DNA
<213> Artificial Sequence

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

<400> 327
gggtggcatc cctgtgaccc ctccccagtg cctctcctgg ccctggaagt tgccactcca 60

gtgcccacca gccttgtcct aataaaatta agttgcatca ttttgtctga ctaggtgtcc 120

ttctataata ttatggggtg gagggggggtg gtatggagca aggggcaagt tgggaagaca 180

acctgtaggg cctgcggggt ctattgggaa ccaagctgga gtgcagtggc acaatcttgg 240

ctcactgcaa tctccgcctc ctgggttcaa gcgattctcc tgcctcagcc tcccgagttg 300

ttgggattcc aggcatgcat gaccaggctc agctaatttt tgtttttttg gtagagacgg 360

ggtttcacca tattggccag gctggtctcc aactcctaat ctcaggtgat ctacccacct 420

tggcctccca aattgctggg attacaggcg tgaaccactg ctcccttccc tgtcctt 477

<210> 328
<211> 23
<212> DNA
<213> Artificial Sequence

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

<400> 328
ccatggaact ggctcgattt cac 23

<210> 329
<211> 27
<212> DNA
<213> Artificial Sequence

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

<400> 329
aggcctgaaa accattgtgg gagccct 27

<210> 330
<211> 18
<212> DNA
<213> Homo sapiens

<400> 330
cgcactgtca atgcccca 18

<210> 331
<211> 18
<212> DNA
<213> Homo sapiens

<400> 331
cctgctgagg ctgtcccg 18

<210> 332
<211> 18
<212> DNA
<213> Homo sapiens

<400> 332
aatggggtgt ggggcgag 18

<210> 333
<211> 18
<212> DNA
<213> Homo sapiens

<400> 333
cctagaaatg gggtgtgg 18

<210> 334
<211> 27
<212> DNA
<213> Homo sapiens

<400> 334
tgagtagaaa agaaacacag cattcca 27

<210> 335
<211> 21
<212> DNA
<213> Homo sapiens

<400> 335
gagtagaaaa gaaacacagc a 21

<210> 336
<211> 21
<212> DNA
<213> Homo sapiens

<400> 336
agtagaaaag aaacacagca t 21

<210> 337
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 337
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
50 55 60

Cys Arg Asp Leu Ala Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Thr Gly Asn Leu
85 90 95

Thr Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

```
Glu Cys Gly Lys Ser Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln
        115                 120                 125


Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140


Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln Arg Thr His Thr
145                 150                 155                 160


Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
                165                 170                 175


Thr Gly His Leu Leu Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190


Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205


Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220


Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225                 230                 235                 240


Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
                245                 250                 255


Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
            260                 265                 270


<210> 338
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 338
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15
```

```
Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30

Ser Phe Ser Arg Asn Asp Thr Leu Thr Glu His Gln Arg Thr His Thr
        35                  40                  45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
    50                  55                  60

Pro Gly Ala Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Glu Leu
                85                  90                  95

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Thr Ser Gly Glu Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr
                165                 170                 175

Lys Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220
```

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225 230 235 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 339
<211> 781
<212> PRT
<213> Artificial Sequence

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

<400> 339
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Thr Ser Gly Asn Leu Thr Glu His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
50 55 60

Ala Asp Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Pro Ala Asp Leu
85 90 95

Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val Arg His Gln
115 120 125

```
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln
                165                 170                 175

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

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg Thr Thr Leu
        195                 200                 205

Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser Lys Arg Pro
    210                 215                 220

Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys Gly Ser Tyr
225                 230                 235                 240

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

Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp
            260                 265                 270

Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp
        275                 280                 285

Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp
    290                 295                 300

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

Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp Asp Arg His Arg
                325                 330                 335

Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met
            340                 345                 350
```

```
Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg Pro Pro Pro Arg
        355                 360                 365

Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val Pro Lys Pro Ala
    370                 375                 380

Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp
385                 390                 395                 400

Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser
                405                 410                 415

Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro
            420                 425                 430

Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro
        435                 440                 445

Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala
    450                 455                 460

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

Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser
                485                 490                 495

Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu
            500                 505                 510

Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr
        515                 520                 525

Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr
    530                 535                 540

Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro
545                 550                 555                 560
```

```
Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile
                565                 570                 575

Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser Gly Ser Gly Ser Arg
            580                 585                 590

Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro Glu Ala Gly Ser Ala
        595                 600                 605

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

Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala Asn Arg Pro Leu Pro
625                 630                 635                 640

Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val His Glu Pro Val Gly
                645                 650                 655

Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu Asp Pro Ala Pro Ala
            660                 665                 670

Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp Pro Asp Glu Glu Thr
        675                 680                 685

Ser Gln Ala Val Lys Ala Leu Arg Glu Met Ala Asp Thr Val Ile Pro
    690                 695                 700

Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met Asp Leu Ser His Pro
705                 710                 715                 720

Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr Thr Leu Glu Ser Met
                725                 730                 735

Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro Glu Leu Asn Glu
            740                 745                 750

Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu His Ala Met His
        755                 760                 765

Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu Phe
    770                 775                 780
```

<210> 340
<211> 272
<212> PRT
<213> Artificial Sequence

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

<400> 340
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
50 55 60

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

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu
85 90 95

Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
165 170 175

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
195 200 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
210 215 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225 230 235 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 341
<211> 753
<212> PRT
<213> Artificial Sequence

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

<400> 341
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
50 55 60

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

```
Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu
                85                  90                  95

Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Glu Ala
    210                 215                 220

Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
225                 230                 235                 240

Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser
                245                 250                 255

Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
            260                 265                 270

Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser Gly Ser
        275                 280                 285
```

```
Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp
    290                 295                 300

Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe
305                 310                 315                 320

Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg
                325                 330                 335

Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val
            340                 345                 350

Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr
        355                 360                 365

Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile
    370                 375                 380

Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln
385                 390                 395                 400

Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln
                405                 410                 415

Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val
            420                 425                 430

Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser
        435                 440                 445

Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu
    450                 455                 460

Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val
465                 470                 475                 480

Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala
                485                 490                 495

Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr
            500                 505                 510
```

```
Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro
        515                 520                 525

Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp
    530                 535                 540

Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser Gly
545                 550                 555                 560

Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro Glu
                565                 570                 575

Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val Cys Gln
            580                 585                 590

Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala Asn
        595                 600                 605

Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val His
    610                 615                 620

Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu Asp
625                 630                 635                 640

Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp Pro
                645                 650                 655

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

Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met Asp
        675                 680                 685

Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr Thr
    690                 695                 700

Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro
705                 710                 715                 720
```

```
Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu
                725                 730                 735


His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu
            740                 745                 750


Phe
```

<210> 342
<211> 753
<212> PRT
<213> Artificial Sequence

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

<400> 342

```
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15


Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30


Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr
        35                  40                  45


Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
    50                  55                  60


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


Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu
                85                  90                  95


Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110


Glu Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln
        115                 120                 125
```

```
Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Glu Ala
    210                 215                 220

Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
225                 230                 235                 240

Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser
                245                 250                 255

Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
            260                 265                 270

Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser Gly Ser
        275                 280                 285

Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp
    290                 295                 300

Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe
305                 310                 315                 320

Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg
                325                 330                 335

Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val
            340                 345                 350
```

```
Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr
        355                 360                 365

Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile
    370                 375                 380

Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln
385                 390                 395                 400

Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln
                405                 410                 415

Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val
            420                 425                 430

Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser
        435                 440                 445

Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu
    450                 455                 460

Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val
465                 470                 475                 480

Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala
                485                 490                 495

Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr
            500                 505                 510

Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro
        515                 520                 525

Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp
    530                 535                 540

Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser Gly
545                 550                 555                 560
```

```
Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro Glu
                565                 570                 575

Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val Cys Gln
            580                 585                 590

Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala Asn
        595                 600                 605

Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val His
    610                 615                 620

Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu Asp
625                 630                 635                 640

Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp Pro
                645                 650                 655

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

Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met Asp
        675                 680                 685

Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr Thr
    690                 695                 700

Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro
705                 710                 715                 720

Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu
                725                 730                 735

His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu
            740                 745                 750

Phe
```

<210> 343
<211> 272

<212> PRT
<213> Artificial Sequence

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

<400> 343
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp
50 55 60

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

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu
85 90 95

Arg Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
100 105 110

Glu Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln
115 120 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
130 135 140

Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr
145 150 155 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
165 170 175

Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr
180 185 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
195 200 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
210 215 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225 230 235 240

Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
245 250 255

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
260 265 270

<210> 344
<211> 837
<212> PRT
<213> Artificial Sequence

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

<400> 344
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
20 25 30

Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg Thr His Thr
35 40 45

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
50 55 60

Lys Asn Ala Leu Gln Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65 70 75 80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Glu Arg Ser His Leu
85 90 95

```
Arg Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Lys Asp Asn Leu Lys Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
            180                 185                 190

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu
        195                 200                 205

Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
    210                 215                 220

Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln
225                 230                 235                 240

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
                245                 250                 255

Ser Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr
            260                 265                 270

Gly Lys Lys Thr Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln
        275                 280                 285

Ala Lys Lys Lys Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
    290                 295                 300
```

```
Leu Glu Glu Ala Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe
305                 310                 315                 320

Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp
                325                 330                 335

Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly
            340                 345                 350

Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg
        355                 360                 365

Ser Ser Gly Ser Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu
    370                 375                 380

Pro Asp Thr Asp Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr
385                 390                 395                 400

Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro
                405                 410                 415

Thr Asp Pro Arg Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser
            420                 425                 430

Ser Ala Ser Val Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser
        435                 440                 445

Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro
    450                 455                 460

Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln
465                 470                 475                 480

Val Leu Pro Gln Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser
                485                 490                 495

Ala Leu Ala Gln Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro
            500                 505                 510

Pro Gln Ala Val Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu
        515                 520                 525
```

```
Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp
    530                 535                 540

Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp
545                 550                 555                 560

Leu Ala Ser Val Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly
                565                 570                 575

Ile Pro Val Ala Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro
            580                 585                 590

Glu Ala Ile Thr Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro
        595                 600                 605

Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser
    610                 615                 620

Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu
625                 630                 635                 640

Leu Gly Ser Gly Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu
                645                 650                 655

Pro Lys Pro Glu Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg
            660                 665                 670

Glu Val Cys Gln Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser
        675                 680                 685

Pro Trp Ala Asn Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr
    690                 695                 700

Gly Pro Val His Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro
705                 710                 715                 720

Gln Pro Leu Asp Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu
                725                 730                 735
```

Leu Glu Asp Pro Asp Glu Glu Thr Ser Gln Ala Val Lys Ala Leu Arg
740 745 750

Glu Met Ala Asp Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys
755 760 765

Gly Gln Met Asp Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu
770 775 780

Leu Thr Thr Thr Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser
785 790 795 800

Pro Leu Thr Pro Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp
805 810 815

Glu Cys Leu Leu His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe
820 825 830

Asp Thr Ser Leu Phe
835

<210> 345
<211> 479
<212> PRT
<213> Artificial Sequence

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

<400> 345
Met Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn
1 5 10 15

Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val
20 25 30

Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala Asp Leu Thr Arg His
35 40 45

Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
50 55 60

```
Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val His Ile Arg Thr His
65                  70                  75                  80

Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala
                85                  90                  95

Gln Leu Ala His Leu Arg Ala His Thr Lys Ile His Leu Arg Gln Lys
            100                 105                 110

Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
        115                 120                 125

Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile His Thr Gly Gln Lys
    130                 135                 140

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn
145                 150                 155                 160

Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                165                 170                 175

Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu Val Arg His
            180                 185                 190

Thr Lys Ile His Leu Arg Gln Lys Asp Lys Leu Glu Met Ser Gly Leu
        195                 200                 205

Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Ile Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285
```

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
290 295 300

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305 310 315 320

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
325 330 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
340 345 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
355 360 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
370 375 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385 390 395 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
405 410 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
420 425 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
435 440 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
450 455 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465 470 475

<210> 346
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 346
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
20 25 30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
35 40 45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
50 55 60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65 70 75 80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
85 90 95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
100 105 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
115 120 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
130 135 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145 150 155 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
165 170 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
180 185 190

```
Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240

Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr
        275                 280                 285

Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys
    290                 295                 300

Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala Asp Leu Thr
305                 310                 315                 320

Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile
                325                 330                 335

Cys Met Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val His Ile Arg
            340                 345                 350

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
        355                 360                 365

Phe Ala Gln Leu Ala His Leu Arg Ala His Thr Lys Ile His Leu Arg
    370                 375                 380

Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg
385                 390                 395                 400

Phe Ser Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile His Thr Gly
                405                 410                 415
```

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu
420 425 430

Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
435 440 445

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

Arg His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
465 470 475

<210> 347
<211> 479
<212> PRT
<213> Artificial Sequence

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

<400> 347
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1 5 10 15

Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys
20 25 30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn
35 40 45

Leu Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
50 55 60

Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His
65 70 75 80

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
85 90 95

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg
100 105 110

```
Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
        115                 120                 125

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
    130                 135                 140

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

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

Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro Pro Val
            180                 185                 190

Ser Leu Ala Pro Val Val Thr Thr Cys Ala Leu Glu Met Ser Gly Leu
        195                 200                 205

Glu Met Ala Asp His Met Met Ala Met Asn His Gly Arg Phe Pro Asp
    210                 215                 220

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

Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln Pro Gln His Ala
                245                 250                 255

Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly Ala Gly Asn Met
            260                 265                 270

Asn Ala Thr Ser Gly Ile Arg His Ala Met Gly Pro Gly Thr Val Asn
        275                 280                 285

Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala Arg Phe Asn Asn
    290                 295                 300

Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly Gly Ser Leu Pro
305                 310                 315                 320
```

Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr Phe Asn His His
325 330 335

Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His Pro Ala Ala Gly
340 345 350

His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp Cys Asn Pro Lys
355 360 365

His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly Gly Ser Ser Thr
370 375 380

Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala Gly Ser Ser Asn
385 390 395 400

Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala Ser Val Ala His
405 410 415

Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp Thr Asp Phe Ile
420 425 430

Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met Gly Leu Asp Arg
435 440 445

Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn Glu Phe Asp Phe
450 455 460

Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg Val Ser Cys
465 470 475

<210> 348
<211> 476
<212> PRT
<213> Artificial Sequence

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

<400> 348
Met Ser Gly Leu Glu Met Ala Asp His Met Met Ala Met Asn His Gly
1 5 10 15

```
Arg Phe Pro Asp Gly Thr Asn Gly Leu His His His Pro Ala His Arg
            20                  25                  30

Met Gly Met Gly Gln Phe Pro Ser Pro His His His Gln Gln Gln Gln
        35                  40                  45

Pro Gln His Ala Phe Asn Ala Leu Met Gly Glu His Ile His Tyr Gly
    50                  55                  60

Ala Gly Asn Met Asn Ala Thr Ser Gly Val Arg His Ala Met Gly Pro
65                  70                  75                  80

Gly Thr Val Asn Gly Gly His Pro Pro Ser Ala Leu Ala Pro Ala Ala
                85                  90                  95

Arg Phe Asn Asn Ser Gln Phe Met Gly Pro Pro Val Ala Ser Gln Gly
            100                 105                 110

Gly Ser Leu Pro Ala Ser Met Gln Leu Gln Lys Leu Asn Asn Gln Tyr
        115                 120                 125

Phe Asn His His Pro Tyr Pro His Asn His Tyr Met Pro Asp Leu His
    130                 135                 140

Pro Ala Ala Gly His Gln Met Asn Gly Thr Asn Gln His Phe Arg Asp
145                 150                 155                 160

Cys Asn Pro Lys His Ser Gly Gly Ser Ser Thr Pro Gly Gly Ser Gly
                165                 170                 175

Gly Ser Ser Thr Pro Gly Gly Ser Gly Ser Ser Ser Gly Gly Gly Ala
            180                 185                 190

Gly Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gly Asn Met Pro Ala
        195                 200                 205

Ser Val Ala His Val Pro Ala Ala Met Leu Pro Pro Asn Val Ile Asp
    210                 215                 220

Thr Asp Phe Ile Asp Glu Glu Val Leu Met Ser Leu Val Ile Glu Met
225                 230                 235                 240
```

```
Gly Leu Asp Arg Ile Lys Glu Leu Pro Glu Leu Trp Leu Gly Gln Asn
                245                 250                 255

Glu Phe Asp Phe Met Thr Asp Phe Val Cys Lys Gln Gln Pro Ser Arg
            260                 265                 270

Val Ser Cys Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg
        275                 280                 285

Phe Ser Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly
    290                 295                 300

His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser
305                 310                 315                 320

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

Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg
            340                 345                 350

Ala His Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala
        355                 360                 365

Glu Gly Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His
    370                 375                 380

Leu Arg Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met
385                 390                 395                 400

Arg Ser Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His
                405                 410                 415

Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala
            420                 425                 430

Arg Ser Asp Asn Leu Val Arg His Ala Lys Ile His Leu Lys Gln Lys
        435                 440                 445
```

Glu Lys Lys Ala Glu Lys Gly Gly Ala Pro Ser Ala Ser Ser Ala Pro
    450   455   460

Pro Val Ser Leu Ala Pro Val Val Thr Thr Cys Ala
465   470   475

<210> 349
<211> 362
<212> PRT
<213> Artificial Sequence

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

<400> 349
Met Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
1   5   10   15

Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys
            20   25   30

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn
        35   40   45

Leu Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
    50   55   60

Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His
65   70   75   80

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
                85   90   95

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg
            100   105   110

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
        115   120   125

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
    130   135   140

```
Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser
145                 150                 155                 160

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

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
            180                 185                 190

Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
        195                 200                 205

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
    210                 215                 220

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
225                 230                 235                 240

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
                245                 250                 255

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
            260                 265                 270

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
        275                 280                 285

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
    290                 295                 300

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
305                 310                 315                 320

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
                325                 330                 335

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
            340                 345                 350

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
        355                 360
```

<210> 350
<211> 554
<212> PRT
<213> Artificial Sequence

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

<400> 350
Met Ala Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln
1 5 10 15

Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr
20 25 30

Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg
35 40 45

Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala
50 55 60

Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val
65 70 75 80

Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro
85 90 95

Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro
100 105 110

Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His
115 120 125

Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr
130 135 140

Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu
145 150 155 160

Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser
165 170 175

```
Ala Pro Pro Ala Gly Ser Val Ser Cys Gly Gly Ser Gly Gly Gly Ser
            180                 185                 190

Gly Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser
        195                 200                 205

Ser Pro Ala Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys
    210                 215                 220

Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn
225                 230                 235                 240

Leu Arg Val His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
                245                 250                 255

Glu Phe Cys Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His
            260                 265                 270

Ala Lys Ile His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly
        275                 280                 285

Cys Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg
    290                 295                 300

Ile His Thr Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser
305                 310                 315                 320

Phe Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly
                325                 330                 335

Glu Lys Pro Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu Lys
        355                 360                 365

Leu Glu Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val
    370                 375                 380
```

```
Gln Arg Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg
385                 390                 395                 400

Thr Leu Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro
                405                 410                 415

Arg Gly Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu
            420                 425                 430

Ala Tyr Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala
        435                 440                 445

Val Pro Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr
    450                 455                 460

Pro Tyr Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro
465                 470                 475                 480

Pro Gly Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala
                485                 490                 495

His Ala Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu
            500                 505                 510

Thr Ser Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro
        515                 520                 525

Glu Leu Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly
    530                 535                 540

Ser Ala Pro Pro Ala Gly Ser Val Ser Cys
545                 550
```

<210> 351
<211> 194
<212> PRT
<213> Artificial Sequence

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

<400> 351

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

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            20                  25                  30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        35                  40                  45

Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn
    50                  55                  60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65                  70                  75                  80

Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile Arg Thr
                85                  90                  95

His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe
            100                 105                 110

Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln
        115                 120                 125

Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser
    130                 135                 140

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

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

His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser
            180                 185                 190

Val Val
```

<210> 352

<400> 352
000

<210> 353
<211> 4380
<212> DNA
<213> Artificial Sequence

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

<400> 353
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attttgaagt tctgttgaca taaagaatca tgatattaat gcccatggaa atgaaagggc 120

gatcaacact atggtttgaa aaggggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

gtgtgagccc agatgaggtt cagctgccaa ctttctcttt cacatcttat gaaagtcatt 300

taagcacaac taacttttt ttttttttt ttttttgag acagagtctt gctctgttgc 360

ccaggacaga gtgcagtagt gactcaatct cggctcactg cagcctccac ctcctaggct 420

caaacggtcc tcctgcatca gcctcccaag tagctggaat tacaggagtg gcccaccatg 480

cccagctaat ttttgtattt ttaatagata cgggggtttc accatatcac ccaggctggt 540

ctcgaactcc tggcctcaag tgatccacct gcctcggcct cccaaagtgc tgggattata 600

ggcgtcagcc actatgccca acccgaccaa cctttttttaa aataaatatt taaaaaattg 660

gtatttcaca tatatactag tatttacatt tatccacaca aaacggacgg gcctccgctg 720

aaccagtgag gccccagacg tgcgcataaa taacccctgc gtgctgcacc acctggggag 780

agggggagga ccacggtaaa tggagcgagc gcatagcaaa agggacgcgg ggtccttttc 840

tctgccggtg gcactgggta gctgtggcca ggtgtggtac tttgatgggg cccagggctg 900

gagctcaagg aagcgtcgca gggtcacaga tctgggggaa ccccggggaa aagcactgag 960

gcaaaaccgc cgctcgtctc ctacaatata tgggaggggg aggttgagta cgttctggat 1020

tactcataag acctttttt tttccttccg ggcgcaaaac cgtgagctgg atttataatc 1080

gccctataaa gctccagagg cggtcaggca cctgcagagg agccccgccg ctccgccgac 1140

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actctgcccc cgcctacccc ggagccgtgc agccgcctct ccgaatctct ctcttctcct 1260

ggcgctcgcg tgcgagaggg aactagcgag aacgaggaag cagctggagg tgacgccggg 1320

cagattacgc ctgtcagggc cgagccgagc ggatcgctgg gcgctgtgca gaggaaaggc 1380

gggagtgccc ggctcgctgt cgcagagccg aggtgggtaa gctagcgacc acctggactt 1440

cccagcgccc aaccgtggct tttcagccag gtcctctcct cccgcggctt ctcaaccaac 1500

cccatcccag cgccggccac ccaacctccc gaaatgagtg cttcctgccc cagcagccga 1560

aggcgctact aggaacggta acctgttact tttccagggg ccgtagtcga cccgctgccc 1620

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gccaagtccg agggagaacg taaagatatg ggccttttтc cccctctcac cttgtctcac 1740

caaagtccct agtccccgga gcagttagcc tctttctttc cagggaatta gccagacaca 1800

acaacgggaa ccagacaccg aaccagacat gcccgccccg tgcgccctcc ccgctcgctg 1860

cctttcctcc ctcttgtctc tccagagccg gatcttcaag gggagcctcc gtgccccggg 1920

ctgctcagtc cctccggtgt gcaggacccc ggaagtcctc cccgcacagc tctcgcttct 1980

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cgaccgagct ggaattcgcc accatggccc caaagaagaa gcggaaggtc ggtatccacg 2100

gagtcccagc agccctcgaa ccaggtgaaa aaccttacaa atgtcctgaa tgtgggaaat 2160

cattcagtcg cagcgacaac ctggtgagac atcaacgcac ccatacagga gaaaaacctt 2220

ataaatgtcc agaatgtgga aagtccttct cacgagagga taacttgcac actcatcaac 2280

gaacacatac tggtgaaaaa ccatacaagt gtcccgaatg tggtaaaagt tttagccgga 2340

gcgatgaact tgtccgacac caacgaaccc atacaggcga gaagccttac aaatgtcccg 2400

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gtttctctca gaatagtacc ctgaccgaac accagcgaac acacactggg aaaaaaacga 2640

gtaaaaggcc ggcggccacg aaaaaggccg gccaggcaaa aaagaaaaag ggatcctacc 2700

catacgacgt accagattac gctctcgagg aggccagcgg ttccggacgg gctgacgcat 2760

tggacgattt tgatctggat atgctgggaa gtgacgccct cgatgatttt gaccttgaca 2820

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gcaaagttgg tagccagtac ctgcccgaca ccgacgaccg gcaccggatc gaggaaaagc 3000

ggaagcggac ctacgagaca ttcaagagca tcatgaagaa gtccccccttc agcggcccca 3060

ccgaccctag acctccacct agaagaatcg ccgtgcccag cagatccagc gccagcgtgc 3120

caaaacctgc cccccagcct tacccccttca ccagcagcct gagcaccatc aactacgacg 3180

agttccctac catggtgttc cccagcggcc agatctctca ggcctctgct ctggctccag 3240

cccctcctca ggtgctgcct caggctcctg ctcctgcacc agctccagcc atggtgtctg 3300

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ctccaccagc ccctaaacct acacaggccg gcgagggcac actgtctgaa gctctgctgc 3420

agctgcagtt cgacgacgag gatctgggag ccctgctggg aaacagcacc gatcctgccg 3480

tgttcaccga cctggccagc gtggacaaca gcgagttcca gcagctgctg aaccagggca 3540

tccctgtggc ccctcacacc accgagccca tgctgatgga ataccccgag gccatcaccc 3600

ggctcgtgac aggcgctcag aggcctcctg atccagctcc tgcccctctg ggagcaccag 3660

gcctgcctaa tggactgctg tctggcgacg aggacttcag ctctatcgcc gatatggatt 3720

tctcagcctt gctgggctct ggcagcggca gccgggattc cagggaaggg atgtttttgc 3780

cgaagcctga ggccggctcc gctattagtg acgtgtttga gggccgcgag gtgtgccagc 3840

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caccagtccc tcagccactg gatccagcgc ccgcagtgac tcccgaggcc agtcacctgt 4020

tggaggatcc cgatgaagag acgagccagg ctgtcaaagc ccttcgggag atggccgata 4080

ctgtgattcc ccagaaggaa gaggctgcaa tctgtggcca aatggacctt tcccatccgc 4140

ccccaagggg ccatctggat gagctgacaa ccacacttga gtccatgacc gaggatctga 4200

acctggactc acccctgacc ccggaattga acgagattct ggataccttc ctgaacgacg 4260

agtgcctctt gcatgccatg catatcagca caggactgtc catcttcgac acatctctgt 4320

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<210> 354

<211> 3585
<212> DNA
<213> Artificial Sequence

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

<400> 354
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attttgaagt tctgttgaca taaagaatca tgatattaat gcccatggaa atgaaagggc 120

gatcaacact atggtttgaa aaggggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

gtgtgagccc agatgaggtt cagctgccaa ctttctcttt cacatcttat gaaagtcatt 300

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gcatctgcat gagaaacttc agccgagagg ataacttgca cactcacatc cgcacccaca 2880

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acaagctcga gatggccgac cacctgatgc tcgccgaggg ctaccgcctg gtgcagaggc 3300

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<211> 4002
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<213> Artificial Sequence

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

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gatcaacact atggtttgaa aaggggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

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ggcgtcagcc actatgccca acccgaccaa cctttttaa aataaatatt taaaaaattg 660

gtatttcaca tatatactag tatttacatt tatccacaca aaacggacgg gcctccgctg 720

aaccagtgag gccccagacg tgcgcataaa taacccctgc gtgctgcacc acctggggag 780

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gcatgagaaa cttcagccac cggactacac tcacgaacca catccgcacc cacacaggcg 3240

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gtgttgtggc tagctcggcc acctcctctc tctcttccta cccgtccccg gttgctacct 3660

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<210> 359
<211> 3309
<212> DNA
<213> Artificial Sequence

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

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gatcaacact atggtttgaa aaggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

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gtatttcaca tatatactag tatttacatt tatccacaca aaacggacgg gcctccgctg 720

aaccagtgag gccccagacg tgcgcataaa taacccctgc gtgctgcacc acctggggag 780

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gaaagtttgc ccagaatagt accctgaccg aacataccaa gatccacttg cggcagaagg 3240

acaagtaact cgagactagt aataaaagat ctttattttc attagatctg tgtgttggtt 3300

ttttgtgtg 3309

<210> 360

<211> 3861
<212> DNA
<213> Artificial Sequence

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

<400> 360
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gatcaacact atggtttgaa aaggggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

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tgtgtgttgg ttttttgtgt g 3861

<210> 361
<211> 3309
<212> DNA
<213> Artificial Sequence

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

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gatcaacact atggtttgaa aaggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

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<223> Description of Artificial Sequence: Synthetic

polynucleotide

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<211> 4436
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<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

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polypeptide

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Met Asp Asn Tyr Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly
65                  70                  75                  80

Ala Pro Gln Phe Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser
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Asn Ser Ser Ser Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly
            100                 105                 110

Ser Asn Ser Ser Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr
        115                 120                 125

Gly Glu Gln Pro Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile
    130                 135                 140

Ser Leu Asn Asn Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln
145                 150                 155                 160

Thr Thr Arg Leu Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu
                165                 170                 175

Pro Ala Pro Asn Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser
            180                 185                 190

Leu Val Ser Gly Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser
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Ser Ala Pro Ser Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro
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Gln Ser Gln Ala Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro
            260                 265                 270

Pro Pro Ala Tyr Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile
        275                 280                 285

Pro Asp Tyr Leu Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr
    290                 295                 300

Pro Asp Gln Lys Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro
305                 310                 315                 320

Ser Leu Thr Pro Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly
                325                 330                 335

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

Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro
        355                 360                 365

Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg
    370                 375                 380

Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly
385                 390                 395                 400

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg
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Thr Thr Leu Thr Asn His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
            420                 425                 430

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His
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Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys
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Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr
465                 470                 475                 480

Glu His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile
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Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg
            500                 505                 510

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
        515                 520                 525

Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg
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Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr
545                 550                 555                 560

Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser
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Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser
            580                 585                 590

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

Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser
    610                 615                 620

Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser
625                 630                 635                 640

Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr
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<210> 365
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<220>
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      polypeptide

<400> 365
Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15


Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30


Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
        35                  40                  45


Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
    50                  55                  60


Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80


Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
                85                  90                  95


His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110


Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln
        115                 120                 125


Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140


Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160
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Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175


Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190


Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205


Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Asp Ala
    210                 215                 220


Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp
225                 230                 235                 240


Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu
                245                 250                 255


Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
            260                 265                 270


<210> 366
<211> 753
<212> PRT
<213> Artificial Sequence

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

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Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1               5                   10                  15


Ala Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
            20                  25                  30


Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr
        35                  40                  45


Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His
    50                  55                  60
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Arg Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro
65                  70                  75                  80

Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu Asp Asn Leu
                85                  90                  95

His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro
            100                 105                 110

Glu Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln
        115                 120                 125

Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys
    130                 135                 140

Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr
145                 150                 155                 160

Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg
                165                 170                 175

Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr
            180                 185                 190

Ser Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys
        195                 200                 205

Lys Gly Ser Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Leu Glu Glu Ala
    210                 215                 220

Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
225                 230                 235                 240

Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser
                245                 250                 255

Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu
            260                 265                 270

Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser Gly Ser
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        275                 280                 285

Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr Asp
    290                 295                 300

Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe
305                 310                 315                 320

Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg
                325                 330                 335

Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val
            340                 345                 350

Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr
        355                 360                 365

Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile
    370                 375                 380

Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln
385                 390                 395                 400

Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln
                405                 410                 415

Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val
            420                 425                 430

Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser
        435                 440                 445

Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu
    450                 455                 460

Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val
465                 470                 475                 480

Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala
                485                 490                 495
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Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr
            500                 505                 510

Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro
        515                 520                 525

Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp
    530                 535                 540

Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser Gly
545                 550                 555                 560

Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro Glu
                565                 570                 575

Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val Cys Gln
            580                 585                 590

Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala Asn
        595                 600                 605

Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val His
    610                 615                 620

Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu Asp
625                 630                 635                 640

Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp Pro
                645                 650                 655

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

Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met Asp
        675                 680                 685

Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr Thr
    690                 695                 700

Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr Pro
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705 710 715 720

Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys Leu Leu
725 730 735

His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr Ser Leu
740 745 750

Phe

<210> 367
<211> 3803
<212> DNA
<213> Artificial Sequence

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

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gtaaatggcc cgcctggctg accgcccaac gacccccgcc cattgacgtc aataatgacg 120

tatgttccca tagtaacgcc aatagggact ttccattgac gtcaatgggt ggagtattta 180

cggtaaactg cccacttggc agtacatcaa gtgtatcata tgccaagtac gccccctatt 240

gacgtcaatg acggtaaatg gcccgcctgg cattatgccc agtacatgac cttatgggac 300

tttcctactt ggcagtacat ctacgtatta gtcatcgcta ttaccatggg tcgaggtgag 360

ccccacgttc tgcttcactc tccccatctc ccccccctcc ccacccccaa ttttgtattt 420

atttatttt taattatttt gtgcagcgat gggggcgggg gggggggggg cgcgcgccag 480

gcggggcggg gcggggcgag gggcggggcg gggcgaggcg gagaggtgcg gcggcagcca 540

atcagagcgg cgcgctccga aagtttcctt ttatggcgag gcggcggcgg cggcggccct 600

ataaaaagcg aagcgcgcgg cgggcgggag tcgctgcgtt gccttcgccc cgtgccccgc 660

tccgcgccgc ctcgcgccgc ccgccccggc tctgactgac cgcgttactc ccacaggtga 720

gcgggcggga cggcccttct cctccgggct gtaattagcg cttggtttaa tgacggctcg 780

tttcttttct gtggctgcgt gaaagcctta aagggctccg ggagggccct ttgtgcgggg 840

gggagcggct cgggggggtgc gtgcgtgtgt gtgtgcgtgg ggagcgccgc gtgcggcccg 900

cgctgcccgg cggctgtgag cgctgcgggc gcggcgcggg gctttgtgcg ctccgcgtgt 960

gcgcgagggg agcgcggccg ggggcggtgc cccgcggtgc gggggggctg cgaggggaac 1020

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tggccaggct ggtctccaac tcctaatctc aggtgatcta cccaccttgg cctcccaaat 3720

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ccacgtgcgg accgagcggc cgc 3803

<210> 368
<211> 3803
<212> DNA
<213> Artificial Sequence

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

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tatgttccca tagtaacgcc aatagggact ttccattgac gtcaatgggt ggagtattta 180

cggtaaactg cccacttggc agtacatcaa gtgtatcata tgccaagtac gccccctatt 240

gacgtcaatg acggtaaatg gcccgcctgg cattatgccc agtacatgac cttatgggac 300

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

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<210> 370
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primer

<400> 370
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<210> 371
<211> 292
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<213> Artificial Sequence

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

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<222> (8)..(57)
<223> Any amino acid

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<223> This region may encompass 1-50 residues

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<220>
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<223> This region may encompass 1-50 residues

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<220>
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            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa His Arg Thr Thr Leu Thr Asn
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Arg Glu Asp Asn Leu His Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser His Ser Leu
                165   170   175

Thr Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180   185   190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195   200   205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210   215   220

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225   230   235   240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                245   250   255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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<210> 372
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<212> PRT
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<220>
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      polypeptide

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<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (65)..(114)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (122)..(171)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (122)..(171)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (179)..(228)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (179)..(228)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (236)..(285)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (236)..(285)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (293)..(342)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (293)..(342)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (350)..(399)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (350)..(399)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (407)..(456)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (407)..(456)
<223> This region may encompass 1-50 residues

<400> 372
Arg Arg Asp Glu Leu Asn Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp His Leu Thr Asn
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Arg Ser Asp Asp Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp Asn Leu
                165   170   175

Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180   185   190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195   200   205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210   215   220

Xaa Xaa Xaa Xaa His Arg Thr Thr Leu Thr Asn Xaa Xaa Xaa Xaa Xaa
225   230   235   240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                245   250   255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            260   265   270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Glu Asp
        275   280   285

Asn Leu His Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    290   295   300

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
305   310   315   320

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                325   330   335

Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser His Ser Leu Thr Glu Xaa Xaa Xaa
            340   345   350

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        355   360   365

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    370   375   380

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln
385   390   395   400

Ser Ser Ser Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

405 410 415

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
420 425 430

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
435 440 445

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Glu Asp Asn Leu His Thr
450 455 460

<210> 373
<211> 9
<212> DNA
<213> Artificial Sequence

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

<400> 373
gcgkgggcg 9

<210> 374
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 374
caaaaaagcc acaaaagcct 20

<210> 375
<211> 20
<212> DNA
<213> Artificial Sequence

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

<400> 375
ttagctccgc aagaaacatc 20

<210> 376
<211> 292
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (8)..(57)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (8)..(57)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (65)..(114)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (65)..(114)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (122)..(171)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (122)..(171)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (179)..(228)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (179)..(228)
<223> This region may encompass 1-50 residues

<220>
<221> MOD_RES
<222> (236)..(285)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (236)..(285)
<223> This region may encompass 1-50 residues

<400> 376
Asp Pro Gly Ala Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp Asn Leu Val Arg
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Gln Ser Gly Asp Leu Arg Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr His Leu Asp Leu
                165   170   175

Ile Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180   185   190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195   200   205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210   215   220

Xaa Xaa Xaa Xaa Thr Ser Gly Asn Leu Val Arg Xaa Xaa Xaa Xaa Xaa
225   230   235   240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                245   250   255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            260   265   270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp
        275   280   285

Asn Leu Val Arg
    290

<210> 377
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 377
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1   5   10   15

Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg Thr His Thr Gly
            20   25   30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Cys
        35   40   45

Arg Asp Leu Ala Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50   55   60

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Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Thr Gly Asn Leu Thr
65                  70                  75                  80


Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln Arg
            100                 105                 110


Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Thr His Leu Asp Leu Ile Arg His Gln Arg Thr His Thr Gly
    130                 135                 140


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Thr
145                 150                 155                 160


Gly His Leu Leu Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 378
<211> 192
<212> PRT
<213> Artificial Sequence

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

<400> 378
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15


Phe Ser Arg Asn Asp Thr Leu Thr Glu His Gln Arg Thr His Thr Gly
            20                  25                  30


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro
        35                  40                  45


Gly Ala Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60
```

```
Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Glu Leu Val
65                  70                  75                  80


Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg
            100                 105                 110


Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Thr Ser Gly Glu Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Lys
145                 150                 155                 160


Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
            180                 185                 190


<210> 379
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 379
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15


Phe Ser Thr Ser Gly Asn Leu Thr Glu His Gln Arg Thr His Thr Gly
            20                  25                  30


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ala
        35                  40                  45
```

```
Asp Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Pro Ala Asp Leu Thr
65                  70                  75                  80

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val Arg His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr Gly
    130                 135                 140

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

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

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg Thr Thr Leu Thr
            180                 185                 190

Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
        195                 200


<210> 380
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 380
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15
```

Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly
            20   25   30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Ser
        35   40   45

Gly Asn Leu Arg Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50   55   60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg
65   70   75   80

Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85   90   95

Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg
            100   105   110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115   120   125

Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly
    130   135   140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145   150   155   160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165   170   175

<210> 381
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 381
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1   5   10   15

```
Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly
            20                  25                  30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Ser
        35                  40                  45

Gly Asn Leu Arg Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg
65                  70                  75                  80

Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145                 150                 155                 160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 382
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 382
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15
```

```
Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly
            20                  25                  30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Ser
        35                  40                  45

Gly Asn Leu Arg Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg
65                  70                  75                  80

Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145                 150                 155                 160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 383
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 383
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15
```

Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly
            20   25   30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Ser
        35   40   45

Gly Asn Leu Arg Val His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50   55   60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg
65   70   75   80

Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85   90   95

Cys Gly Lys Ser Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg
            100   105   110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115   120   125

Phe Ser Arg Glu Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly
    130   135   140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145   150   155   160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165   170   175

<210> 384
<211> 260
<212> PRT
<213> Artificial Sequence

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

<400> 384
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1   5   10   15

```
Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg Thr His Thr Gly
            20                  25                  30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Lys
        35                  40                  45

Asn Ala Leu Gln Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

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

Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Gln Arg Ala Asn Leu Arg Ala His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Lys
145                 150                 155                 160

Asp Asn Leu Lys Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
                165                 170                 175

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Asn Leu Val
            180                 185                 190

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
        195                 200                 205

Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg
    210                 215                 220

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
```

225 230 235 240

Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr Gly
245 250 255

Lys Lys Thr Ser
260

<210> 385
<211> 190
<212> PRT
<213> Artificial Sequence

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

<400> 385
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1 5 10 15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala
20 25 30

Asp Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
35 40 45

Cys Arg Ile Cys Met Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val
50 55 60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65 70 75 80

Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Thr Lys Ile
85 90 95

His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
100 105 110

Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile
115 120 125

His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe

130 135 140

Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu
145 150 155 160

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp
165 170 175

Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
180 185 190

<210> 386
<211> 191
<212> PRT
<213> Artificial Sequence

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

<400> 386
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1 5 10 15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Ser Pro Ala
20 25 30

Asp Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
35 40 45

Cys Arg Ile Cys Met Arg Asn Phe Ser Asp Ser Gly Asn Leu Arg Val
50 55 60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65 70 75 80

Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Thr Lys Ile
85 90 95

His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
100 105 110

Asp Arg Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Ile Arg Ile

```
        115                 120                 125

His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    130                 135                 140

Ser Arg Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu
145                 150                 155                 160

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp
                165                 170                 175

Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
            180                 185                 190

<210> 387
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 387
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Ser Pro Ala
1               5                   10                  15

Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
            20                  25                  30

Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn Leu Arg Val
        35                  40                  45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
    50                  55                  60

Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Ala Lys Ile
65                  70                  75                  80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
                85                  90                  95

Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg Ile His Thr
```

100 105 110

Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg
115 120 125

Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro
130 135 140

Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu
145 150 155 160

Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu
165 170

<210> 388
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 388
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Ser Pro Ala
1 5 10 15

Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
20 25 30

Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn Leu Arg Val
35 40 45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
50 55 60

Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Ala Lys Ile
65 70 75 80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
85 90 95

Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg Ile His Thr

100 105 110

Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg
115 120 125

Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro
130 135 140

Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu
145 150 155 160

Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu
165 170

<210> 389
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 389
His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Ser Pro Ala
1 5 10 15

Asp Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro Phe Gln
20 25 30

Cys Arg Ile Cys Met Arg Ser Phe Ser Asp Ser Gly Asn Leu Arg Val
35 40 45

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu Phe Cys
50 55 60

Gly Arg Lys Phe Ala Gln Leu Ala His Leu Arg Ala His Ala Lys Ile
65 70 75 80

His Leu Lys Gln Lys Glu His Ala Cys Pro Ala Glu Gly Cys Asp Arg
85 90 95

Arg Phe Ser Gln Arg Ala Asn Leu Arg Ala His Leu Arg Ile His Thr

100 105 110

Gly His Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg
115 120 125

Glu Asp Asn Leu His Thr His Ile Arg Thr His Thr Gly Glu Lys Pro
130 135 140

Phe Ala Cys Glu Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Asn Leu
145 150 155 160

Val Arg His Ala Lys Ile His Leu Lys Gln Lys Glu
165 170

<210> 390
<211> 184
<212> PRT
<213> Artificial Sequence

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

<400> 390
Met Ala Asp His Leu Met Leu Ala Glu Gly Tyr Arg Leu Val Gln Arg
1 5 10 15

Pro Pro Ser Ala Ala Ala Ala His Gly Pro His Ala Leu Arg Thr Leu
20 25 30

Pro Pro Tyr Ala Gly Pro Gly Leu Asp Ser Gly Leu Arg Pro Arg Gly
35 40 45

Ala Pro Leu Gly Pro Pro Pro Pro Arg Gln Pro Gly Ala Leu Ala Tyr
50 55 60

Gly Ala Phe Gly Pro Pro Ser Ser Phe Gln Pro Phe Pro Ala Val Pro
65 70 75 80

Pro Pro Ala Ala Gly Ile Ala His Leu Gln Pro Val Ala Thr Pro Tyr
85 90 95

Pro Gly Arg Ala Ala Ala Pro Pro Asn Ala Pro Gly Gly Pro Pro Gly

100 105 110

Pro Gln Pro Ala Pro Ser Ala Ala Ala Pro Pro Pro Pro Ala His Ala
115 120 125

Leu Gly Gly Met Asp Ala Glu Leu Ile Asp Glu Glu Ala Leu Thr Ser
130 135 140

Leu Glu Leu Glu Leu Gly Leu His Arg Val Arg Glu Leu Pro Glu Leu
145 150 155 160

Phe Leu Gly Gln Ser Glu Phe Asp Cys Phe Ser Asp Leu Gly Ser Ala
165 170 175

Pro Pro Ala Gly Ser Val Ser Cys
180

<210> 391
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 391
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

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

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Lys
35 40 45

Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Asn Asp Ala Leu Thr
65 70 75 80

Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu

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                85                  90                  95

Cys Gly Lys Ser Phe Ser Glu Arg Ser His Leu Arg Glu His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Ser Lys Lys His Leu Ala Glu His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr His
145                 150                 155                 160

Leu Asp Leu Ile Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
                165                 170                 175

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr
            180                 185                 190

Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
        195                 200


<210> 392
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 392
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15

Phe Ser Ser Arg Arg Thr Cys Arg Ala His Gln Arg Thr His Thr Gly
            20                  25                  30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Thr
        35                  40                  45

Gly Ala Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
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    50                  55                  60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Arg Asn Asp Ala Leu Thr Glu His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Gln Ser Gly Asp Leu Arg Arg His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser
145                 150                 155                 160

His Ser Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 393
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 393
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15

Phe Ser Arg Lys Asp Asn Leu Lys Asn His Gln Arg Thr His Thr Gly
            20                  25                  30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro
        35                  40                  45

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

50 55 60

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

Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Thr Ser Gly Glu Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Lys
145 150 155 160

Asp Asn Leu Lys Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 394
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 394
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
35 40 45

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr

50 55 60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Asn
145 150 155 160

Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 395
<211> 232
<212> PRT
<213> Artificial Sequence

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

<400> 395
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Pro
35 40 45

Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr

```
    50                  55                  60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

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

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser
145                 150                 155                 160

Gly Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
                165                 170                 175

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly His Leu Val
            180                 185                 190

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
        195                 200                 205

Cys Gly Lys Ser Phe Ser Gln Asn Ser Thr Leu Thr Glu His Gln Arg
    210                 215                 220

Thr His Thr Gly Lys Lys Thr Ser
225                 230


<210> 396
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 396
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
35 40 45

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser
145 150 155 160

Gly His Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 397
<211> 176
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 397
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1   5   10   15

Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg Thr His Thr Gly
            20   25   30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Pro
        35   40   45

Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50   55   60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85   90   95

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

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115   120   125

Phe Ser Arg Ser Asp Glu Leu Val Arg His Gln Arg Thr His Thr Gly
    130   135   140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser
145   150   155   160

Gly Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165   170   175

<210> 398
<211> 232
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 398

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Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                  10                  15

Phe Ser Asp Cys Arg Asp Leu Ala Arg His Gln Arg Thr His Thr Gly
            20                  25                  30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Asn
        35                  40                  45

Asp Ala Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Asn Asp Ala Leu Thr
65                  70                  75                  80

Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95

Cys Gly Lys Ser Phe Ser Ser Pro Ala Asp Leu Thr Arg His Gln Arg
            100                 105                 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125

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

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Arg
145                 150                 155                 160

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

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu Val
            180                 185                 190

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
        195                 200                 205
```

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

Thr His Thr Gly Lys Lys Thr Ser
225 230

<210> 399
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 399
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Asn Asp Ala Leu Thr Glu His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Ser Pro
35 40 45

Ala Asp Leu Thr Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro Gly Asn Leu Val
65 70 75 80

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Arg Ala His Leu Glu Arg His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
145 150 155 160

Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 400
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 400
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Thr Lys Asn Ser Leu Thr Glu His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ala
35 40 45

Asp Asn Leu Thr Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu Ala His Leu Arg
65 70 75 80

Ala His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Thr Lys Asn Ser Leu Thr Glu His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr Gly
130 135 140

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Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr His
145                 150                 155                 160


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


<210> 401
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 401
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15


Phe Ser Arg Asn Asp Ala Leu Thr Glu His Gln Arg Thr His Thr Gly
            20                  25                  30


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Asp Pro
        35                  40                  45


Gly His Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60


Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Glu Leu Val
65                  70                  75                  80


Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln Arg
            100                 105                 110


Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Ser Lys Lys Ala Leu Thr Glu His Gln Arg Thr His Thr Gly
    130                 135                 140
```

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Leu
145                 150                 155                 160


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


Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser Asp His Leu Thr
            180                 185                 190


Asn His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
        195                 200


<210> 402
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 402
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15


Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
            20                  25                  30


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
        35                  40                  45


Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60


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


Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg
            100                 105                 110
```

```
Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
145                 150                 155                 160


Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 403
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 403
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15


Phe Ser Asp Pro Gly Ala Leu Val Arg His Gln Arg Thr His Thr Gly
            20                  25                  30


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
        35                  40                  45


Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60


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


Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln Arg
            100                 105                 110
```

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115   120   125

Phe Ser Thr Ser Gly Asn Leu Val Arg His Gln Arg Thr His Thr Gly
    130   135   140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Ser
145   150   155   160

Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165   170   175

<210> 404
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 404
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1   5   10   15

Phe Ser Gln Ala Gly His Leu Ala Ser His Gln Arg Thr His Thr Gly
            20   25   30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
        35   40   45

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50   55   60

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser Gly Asn Leu Thr
65   70   75   80

Glu His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85   90   95

Cys Gly Lys Ser Phe Ser Thr His Leu Asp Leu Ile Arg His Gln Arg
            100   105   110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115   120   125

Phe Ser Gln Lys Ser Ser Leu Ile Ala His Gln Arg Thr His Thr Gly
    130   135   140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Ala
145   150   155   160

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

<210> 405
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 405
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1   5   10   15

Phe Ser Thr Thr Gly Asn Leu Thr Val His Gln Arg Thr His Thr Gly
            20   25   30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Thr Ser
        35   40   45

Gly Glu Leu Val Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50   55   60

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

Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85   90   95

Cys Gly Lys Ser Phe Ser Thr Ser Gly Asn Leu Thr Glu His Gln Arg
            100   105   110

```
Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Arg
145                 150                 155                 160


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


<210> 406
<211> 198
<212> PRT
<213> Artificial Sequence

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

<400> 406
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1               5                   10                  15


Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            20                  25                  30


Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        35                  40                  45


Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn
    50                  55                  60


His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65                  70                  75                  80


Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr Lys Ile
                85                  90                  95


His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
            100                 105                 110
```

Asp Arg Arg Phe Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile
        115   120   125

His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    130   135   140

Ser Gln Ser Ser Ser Leu Val Arg His Ile Arg Thr His Thr Gly Glu
145   150   155   160

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp
                165   170   175

Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys
            180   185   190

Ala Asp Lys Ser Val Val
        195

<210> 407
<211> 630
<212> PRT
<213> Artificial Sequence

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

<400> 407
Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile Ser
1   5   10   15

Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr Pro
            20   25   30

Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe Leu
        35   40   45

Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser Ser
    50   55   60

Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser Ser
65   70   75   80

```
Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro Tyr
                85                  90                  95

Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn Glu
            100                 105                 110

Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu Pro
        115                 120                 125

Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn Ser
    130                 135                 140

Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly Leu
145                 150                 155                 160

Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser Pro
                165                 170                 175

Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys Ala
            180                 185                 190

Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr Phe
        195                 200                 205

Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala Phe
    210                 215                 220

Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr Pro
225                 230                 235                 240

Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu Phe
                245                 250                 255

Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys Pro
            260                 265                 270

Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro Leu
        275                 280                 285

Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu Lys
```

```
    290                 295                 300

Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg Met
305                 310                 315                 320

Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
                325                 330                 335

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            340                 345                 350

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        355                 360                 365

Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
    370                 375                 380

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
385                 390                 395                 400

Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile
                405                 410                 415

His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
            420                 425                 430

Asp Arg Arg Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile
        435                 440                 445

His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    450                 455                 460

Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
465                 470                 475                 480

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser
                485                 490                 495

Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys
            500                 505                 510
```

Ala Asp Lys Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser
        515   520   525

Tyr Pro Ser Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser
    530   535   540

Tyr Pro Ser Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser
545   550   555   560

Phe Ser Ser Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly
                565   570   575

Phe Pro Ser Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala
            580   585   590

Phe Pro Ala Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser
        595   600   605

Phe Ser Ala Ser Thr Gly Leu Ser Asp Met Thr Ala Thr Phe Ser Pro
    610   615   620

Arg Thr Ile Glu Ile Cys
625   630

<210> 408
<211> 264
<212> PRT
<213> Artificial Sequence

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

<400> 408
Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Asp
1   5   10   15

Pro Gly Ala Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro
            20   25   30

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp Asn Leu
        35   40   45

```
Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
    50                  55                  60

Ile Cys Gly Arg Lys Phe Ala Gln Ser Gly Asp Leu Arg Arg His Thr
65                  70                  75                  80

Lys Ile His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu
                85                  90                  95

Ser Cys Asp Arg Arg Phe Ser Thr His Leu Asp Leu Ile Arg His Ile
            100                 105                 110

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
        115                 120                 125

Asn Phe Ser Thr Ser Gly Asn Leu Val Arg His Ile Arg Thr His Thr
    130                 135                 140

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
145                 150                 155                 160

Ser Asp Asn Leu Val Arg His Thr Lys Ile His Leu Arg Gln Lys Asp
                165                 170                 175

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Gln
            180                 185                 190

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

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Glu Arg Ser His Leu
    210                 215                 220

Arg Glu His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
225                 230                 235                 240

Ile Cys Gly Arg Lys Phe Ala Gln Ala Gly His Leu Ala Ser His Thr
                245                 250                 255

Lys Ile His Leu Arg Gln Lys Asp
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260

<210> 409
<211> 194
<212> PRT
<213> Artificial Sequence

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

<400> 409
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1 5 10 15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
20 25 30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
35 40 45

Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
50 55 60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65 70 75 80

Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ile Arg Thr
85 90 95

His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe
100 105 110

Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln
115 120 125

Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly
130 135 140

His Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala
145 150 155 160

Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu

165 170 175

His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser
180 185 190

Val Val

<210> 410
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 410
Gly Gly Ser Gly Gly Gly Ser Gly
1 5

<210> 411

<400> 411
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<210> 412
<211> 292
<212> PRT
<213> Artificial Sequence

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

<220>
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<222> (8)..(57)
<223> Any amino acid

<220>
<221> MISC_FEATURE
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<223> This region may encompass 1-50 residues

<220>
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<222> (65)..(114)

<223> Any amino acid

<220>
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<222> (65)..(114)
<223> This region may encompass 1-50 residues

<220>
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<223> Any amino acid

<220>
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<222> (122)..(171)
<223> This region may encompass 1-50 residues

<220>
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<222> (179)..(228)
<223> Any amino acid

<220>
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<223> This region may encompass 1-50 residues

<220>
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<222> (236)..(285)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (236)..(285)
<223> This region may encompass 1-50 residues

<400> 412
Arg Ser Asp Asn Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Pro Gly His Leu Val Arg
    50   55   60

```
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65                  70                  75                  80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85                  90                  95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100                 105                 110

Xaa Xaa Arg Ser Asp His Leu Thr Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115                 120                 125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130                 135                 140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145                 150                 155                 160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp Glu Leu
                165                 170                 175

Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180                 185                 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195                 200                 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210                 215                 220

Xaa Xaa Xaa Xaa Arg Ser Asp Lys Leu Val Arg Xaa Xaa Xaa Xaa Xaa
225                 230                 235                 240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                245                 250                 255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            260                 265                 270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Thr Gly
        275                 280                 285
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Asn Leu Thr Val
290

<210> 413
<211> 292
<212> PRT
<213> Artificial Sequence

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

<220>
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<223> Any amino acid

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<220>
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<223> Any amino acid

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<222> (179)..(228)

<223> This region may encompass 1-50 residues

<220>
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<223> Any amino acid

<220>
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<222> (236)..(285)
<223> This region may encompass 1-50 residues

<400> 413
Arg Ser Asp His Leu Thr Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp Glu Leu Val Arg
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Arg Ser Asp Lys Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Thr Gly Asn Leu

165 170 175

Thr Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
180 185 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
195 200 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
210 215 220

Xaa Xaa Xaa Xaa Gln Leu Ala His Leu Arg Ala Xaa Xaa Xaa Xaa Xaa
225 230 235 240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
245 250 255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
260 265 270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Lys Asn
275 280 285

Ser Leu Thr Glu
290

<210> 414
<211> 292
<212> PRT
<213> Artificial Sequence

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

<220>
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<220>
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<220>
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<223> Any amino acid

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<222> (236)..(285)
<223> This region may encompass 1-50 residues

<400> 414
Ser Pro Ala Asp Leu Thr Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Ser Gly Asn Leu Arg Val
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Gln Leu Ala His Leu Arg Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln Arg Ala Asn Leu
                165   170   175

Arg Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180   185   190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195   200   205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210   215   220

Xaa Xaa Xaa Xaa Arg Glu Asp Asn Leu His Thr Xaa Xaa Xaa Xaa Xaa
225   230   235   240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                245   250   255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            260   265   270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp
        275   280   285

Asn Leu Val Arg
    290

<210> 415
<211> 463
<212> PRT
<213> Artificial Sequence

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

<220>
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<223> This region may encompass 1-50 residues

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<223> Any amino acid

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<223> This region may encompass 1-50 residues

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<223> Any amino acid

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<222> (236)..(285)
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<222> (236)..(285)
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<220>
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<222> (293)..(342)
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<220>
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<222> (350)..(399)
<223> Any amino acid

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<222> (350)..(399)
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<223> Any amino acid

<220>
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<400> 415
Thr Ser His Ser Leu Thr Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa His Lys Asn Ala Leu Gln Asn
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Glu Arg Ser His Leu Arg Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145   150   155   160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser Lys Lys Ala Leu
                165   170   175

Thr Glu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180   185   190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195   200   205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210   215   220

Xaa Xaa Xaa Xaa Gln Arg Ala Asn Leu Arg Ala Xaa Xaa Xaa Xaa Xaa
225   230   235   240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

245 250 255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
260 265 270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Lys Asp
275 280 285

Asn Leu Lys Asn Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
290 295 300

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
305 310 315 320

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
325 330 335

Xaa Xaa Xaa Xaa Xaa Xaa Gln Ser Ser Asn Leu Val Arg Xaa Xaa Xaa
340 345 350

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
355 360 365

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
370 375 380

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln
385 390 395 400

Ser Ser Ser Leu Val Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
405 410 415

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
420 425 430

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
435 440 445

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln Ala Gly His Leu Ala Ser
450 455 460

<210> 416
<211> 349
<212> PRT
<213> Artificial Sequence

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

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<220>
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<220>
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<223> Any amino acid

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<220>
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<223> Any amino acid

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<220>
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<222> (293)..(342)
<223> Any amino acid

<220>
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<222> (293)..(342)
<223> This region may encompass 1-50 residues

<400> 416
Gln Ser Gly Asp Leu Arg Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40   45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser Pro Ala Asp Leu Thr Arg
    50   55   60

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
65   70   75   80

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                85   90   95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            100   105   110

Xaa Xaa Asp Ser Gly Asn Leu Arg Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        115   120   125

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    130   135   140

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145                 150                 155                 160

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gln Leu Ala His Leu
                165                 170                 175

Arg Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            180                 185                 190

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        195                 200                 205

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    210                 215                 220

Xaa Xaa Xaa Xaa Gln Arg Ala Asn Leu Arg Ala Xaa Xaa Xaa Xaa Xaa
225                 230                 235                 240

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                245                 250                 255

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            260                 265                 270

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Glu Asp
        275                 280                 285

Asn Leu His Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
    290                 295                 300

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
305                 310                 315                 320

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                325                 330                 335

Xaa Xaa Xaa Xaa Xaa Xaa Arg Ser Asp Asn Leu Val Arg
            340                 345

<210> 417
<211> 509
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<212> DNA
<213> Artificial Sequence

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

<400> 417
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gccccctcc ccccccccg acccctgcag gattatcctg tctgtgttcc tgactcagcc 120

tgggagccac ctgggcagca ggggccaagg gtgtcctaga agggacctgg agtccacgct 180

gggccaagcc tgccctttct ccctctgtct tccgtccctg cttgcggttc tgctgaatgt 240

ggttatttct ctggctcctt ttacagagaa tgctgctgct aattttatgt ggagctctga 300

ggcagtgtaa ttggaagcca gacaccctgt cagcagtggg ctcccgtcct gagctgccat 360

gcttcctgct ctcctcccgt cccggctcct catttcatgc agccacctgt cccagggaga 420

gaggagtcac ccaggcccct cagtccgccc cttaaataag aaagcctccg ttgctcggca 480

cacataccaa gcagccgctg gtgcaatct 509

<210> 418
<211> 990
<212> DNA
<213> Artificial Sequence

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

<400> 418
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ctggacggcg acgtaaacgg ccacaagttc agcgtgtccg gcgagggcga gggcgatgcc 120

acctacggca agctgaccct gaagttcatc tgcaccaccg gcaagctgcc cgtgccctgg 180

cccaccctcg tgaccaccct gacctacggc gtgcagtgct tcagccgcta ccccgaccac 240

atgaagcagc acgacttctt caagtccgcc atgcccgaag gctacgtcca ggagcgcacc 300

atcttcttca aggacgacgg caactacaag acccgcgccg aggtgaagtt cgagggcgac 360

accctggtga accgcatcga gctgaagggc atcgacttca aggaggacgg caacatcctg 420

gggcacaagc tggagtacaa ctacaacagc cacaacgtct atatcatggc cgacaagcag 480

aagaacggca tcaaggtgaa cttcaagatc cgccacaaca tcgaggacgg cagcgtgcag 540

ctcgccgacc actaccagca gaacaccccc atcggcgacg gccccgtgct gctgcccgac 600

aaccactacc tgagcaccca gtccgccctg agcaaagacc ccaacgagaa gcgcgatcac 660

atggtcctgc tggagttcgt gaccgccgcc gggatcactc tcggcatgga cgagctgtac 720

aagtccggac tcagatctcg agaggaggag gaggagacag acagcaggat gccccacctc 780

gacagccccg gcagctccca gccgagacgc tccttcctct caagggtgat cagggcagct 840

ctaccgttgc agctgcttct gctgctgctg ctgctcctgg cctgcctgct acctgcctct 900

gaagatgact acagctgcac ccaggccaac aactttgccc gatccttcta ccccatgctg 960

cggtacacca acgggccacc tcccacctag 990

<210> 419

<400> 419
000

<210> 420

<400> 420
000

<210> 421
<211> 360
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (19)..(19)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (41)..(41)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (63)..(63)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (85)..(85)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (107)..(107)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (129)..(129)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (151)..(151)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (173)..(173)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (195)..(195)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (217)..(217)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (239)..(239)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (261)..(261)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (283)..(283)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (305)..(305)

<223> Any amino acid

<220>
<221> MOD_RES
<222> (327)..(327)
<223> Any amino acid

<220>
<221> MISC_FEATURE
<222> (8)..(337)
<223> This region may encompass 1-15 'Tyr Lys Cys Pro Glu Cys Gly
Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro'
repeating units

<220>
<221> MOD_RES
<222> (349)..(349)
<223> Any amino acid

<220>
<223> See specification as filed for detailed description of
substitutions and preferred embodiments

<400> 421
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys
20 25 30

Pro Glu Cys Gly Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly
35 40 45

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa His
50 55 60

Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly
65 70 75 80

Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
85 90 95

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa His Gln Arg Thr His
100 105 110

Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser
115 120 125

```
Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
    130                 135                 140

Cys Gly Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys
145                 150                 155                 160

Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa His Gln Arg
                165                 170                 175

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
            180                 185                 190

Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys
        195                 200                 205

Pro Glu Cys Gly Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly
    210                 215                 220

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa His
225                 230                 235                 240

Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly
                245                 250                 255

Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
            260                 265                 270

Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa His Gln Arg Thr His
        275                 280                 285

Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser
    290                 295                 300

Xaa His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
305                 310                 315                 320

Cys Gly Lys Ser Phe Ser Xaa His Gln Arg Thr His Thr Gly Glu Lys
                325                 330                 335
```

```
Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Xaa His Gln Arg
            340                 345                 350


Thr His Thr Gly Lys Lys Thr Ser
        355                 360


<210> 422
<211> 387
<212> PRT
<213> Artificial Sequence

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

<400> 422
Met Thr Gly Lys Leu Ala Glu Lys Leu Pro Val Thr Met Ser Ser Leu
1               5                   10                  15


Leu Asn Gln Leu Pro Asp Asn Leu Tyr Pro Glu Glu Ile Pro Ser Ala
            20                  25                  30


Leu Asn Leu Phe Ser Gly Ser Ser Asp Ser Val Val His Tyr Asn Gln
        35                  40                  45


Met Ala Thr Glu Asn Val Met Asp Ile Gly Leu Thr Asn Glu Lys Pro
    50                  55                  60


Asn Pro Glu Leu Ser Tyr Ser Gly Ser Phe Gln Pro Ala Pro Gly Asn
65                  70                  75                  80


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


Trp Cys Gln Asp Asn Ile Ile Ser Leu Met Ser Ala Gly Ile Leu Gly
            100                 105                 110


Val Pro Pro Ala Ser Gly Ala Leu Ser Thr Gln Thr Ser Thr Ala Ser
        115                 120                 125


Met Val Gln Pro Pro Gln Gly Asp Val Glu Ala Met Tyr Pro Ala Leu
    130                 135                 140
```

```
Pro Pro Tyr Ser Asn Cys Gly Asp Leu Tyr Ser Glu Pro Val Ser Phe
145                 150                 155                 160

His Asp Pro Gln Gly Asn Pro Gly Leu Ala Tyr Ser Pro Gln Asp Tyr
                165                 170                 175

Gln Ser Ala Lys Pro Ala Leu Asp Ser Asn Leu Phe Pro Met Ile Pro
            180                 185                 190

Asp Tyr Asn Leu Tyr His His Pro Asn Asp Met Gly Ser Ile Pro Glu
        195                 200                 205

His Lys Pro Phe Gln Gly Met Asp Pro Ile Arg Val Asn Pro Pro Pro
    210                 215                 220

Ile Thr Pro Leu Glu Thr Ile Lys Ala Phe Lys Asp Lys Gln Ile His
225                 230                 235                 240

Pro Gly Phe Gly Ser Leu Pro Gln Pro Pro Leu Thr Leu Lys Pro Ile
                245                 250                 255

Arg Pro Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Leu His Glu
            260                 265                 270

Arg Pro His Ala Cys Pro Ala Glu Gly Cys Asp Arg Arg Phe Ser Arg
        275                 280                 285

Ser Asp Glu Leu Thr Arg His Leu Arg Ile His Thr Gly His Lys Pro
    290                 295                 300

Phe Gln Cys Arg Ile Cys Met Arg Ser Phe Ser Arg Ser Asp His Leu
305                 310                 315                 320

Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Glu
                325                 330                 335

Phe Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Ala
            340                 345                 350

Lys Ile His Leu Lys Gln Lys Glu Lys Lys Ala Glu Lys Gly Gly Ala
        355                 360                 365
```

Pro Ser Ala Ser Ser Ala Pro Pro Val Ser Leu Ala Pro Val Val Thr
370 375 380

Thr Cys Ala
385

<210> 423
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 423
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
35 40 45

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Asn
145                 150                 155                 160


Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 424
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 424
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1               5                   10                  15


Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
            20                  25                  30


Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
        35                  40                  45


Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    50                  55                  60


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


Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
                85                  90                  95


Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg
            100                 105                 110


Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
        115                 120                 125


Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr Gly
    130                 135                 140
```

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Asn
145 150 155 160

Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 425
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 425
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
35 40 45

Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Arg His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Gln Ser Gly Asn Leu Thr Glu His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Thr Ser Gly His Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Gln Asn
145 150 155 160

Ser Thr Leu Thr Glu His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
165 170 175

<210> 426
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 426
Leu Glu Pro Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
1 5 10 15

Phe Ser Arg Ser Asp Asn Leu Val Arg His Gln Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser His Arg
35 40 45

Thr Thr Leu Thr Asn His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
50 55 60

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

Thr His Gln Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu
85 90 95

Cys Gly Lys Ser Phe Ser Thr Ser His Ser Leu Thr Glu His Gln Arg
100 105 110

Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser
115 120 125

Phe Ser Gln Ser Ser Ser Leu Val Arg His Gln Arg Thr His Thr Gly
130 135 140

```
Glu Lys Pro Tyr Lys Cys Pro Glu Cys Gly Lys Ser Phe Ser Arg Glu
145                 150                 155                 160


Asp Asn Leu His Thr His Gln Arg Thr His Thr Gly Lys Lys Thr Ser
                165                 170                 175


<210> 427
<211> 198
<212> PRT
<213> Artificial Sequence

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

<400> 427
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1               5                   10                  15


Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            20                  25                  30


Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        35                  40                  45


Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
    50                  55                  60


His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65                  70                  75                  80


Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile
                85                  90                  95


His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
            100                 105                 110


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


His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    130                 135                 140
```

Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
145 150 155 160

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser
165 170 175

Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys
180 185 190

Ala Asp Lys Ser Val Val
195

<210> 428
<211> 198
<212> PRT
<213> Artificial Sequence

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

<400> 428
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1 5 10 15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
20 25 30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
35 40 45

Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
50 55 60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65 70 75 80

Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile
85 90 95

His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
100 105 110

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

His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    130   135   140

Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
145   150   155   160

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser
                165   170   175

Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys
            180   185   190

Ala Asp Lys Ser Val Val
        195

<210> 429
<211> 191
<212> PRT
<213> Artificial Sequence

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

<400> 429
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1   5   10   15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            20   25   30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        35   40   45

Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
    50   55   60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65   70   75   80

```
Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile
                85                  90                  95

His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
            100                 105                 110

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

His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    130                 135                 140

Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
145                 150                 155                 160

Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser
                165                 170                 175

Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
            180                 185                 190


<210> 430
<211> 191
<212> PRT
<213> Artificial Sequence

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

<400> 430
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1               5                   10                  15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            20                  25                  30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        35                  40                  45

Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
    50                  55                  60
```

```
His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65                  70                  75                  80


Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Thr Lys Ile
                85                  90                  95


His Leu Arg Gln Lys Asp Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys
            100                 105                 110


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


His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
    130                 135                 140


Ser Thr Ser Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu
145                 150                 155                 160


Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser
                165                 170                 175


Thr Leu Thr Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys
            180                 185                 190


<210> 431
<211> 194
<212> PRT
<213> Artificial Sequence

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

<400> 431
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1               5                   10                  15


Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
            20                  25                  30


Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
        35                  40                  45
```

Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn
    50   55   60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65   70   75   80

Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile Arg Thr
                85   90   95

His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe
            100   105   110

Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln
        115   120   125

Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser
    130   135   140

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

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

His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser
            180   185   190

Val Val

<210> 432
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 432
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1   5   10   15

```
Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
            20                  25                  30

Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile
        35                  40                  45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
    50                  55                  60

Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr
65                  70                  75                  80

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
                85                  90                  95

Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
            100                 105                 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr
        115                 120                 125

Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro
    130                 135                 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu
145                 150                 155                 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
                165                 170                 175

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr
            180                 185                 190

Lys Ile His Leu Arg Gln Lys Asp Lys
        195                 200
```

<210> 433
<211> 195
<212> PRT
<213> Artificial Sequence

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

<400> 433
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1 5 10 15

Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
20 25 30

Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile
35 40 45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
50 55 60

Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr
65 70 75 80

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
85 90 95

Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
100 105 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr
115 120 125

Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro
130 135 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu
145 150 155 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
165 170 175

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr
180 185 190

Lys Ile His
195

<210> 434
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 434
Gln Ser Gln Leu Ile Lys Pro Ser Arg Met Arg Lys Tyr Pro Asn Arg
1 5 10 15

Pro Ser Lys Thr Pro Pro His Glu Arg Pro Tyr Ala Cys Pro Val Glu
20 25 30

Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp Asn Leu Val Arg His Ile
35 40 45

Arg Ile His Thr Gly Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg
50 55 60

Asn Phe Ser His Arg Thr Thr Leu Thr Asn His Ile Arg Thr His Thr
65 70 75 80

Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Arg
85 90 95

Glu Asp Asn Leu His Thr His Thr Lys Ile His Leu Arg Gln Lys Asp
100 105 110

Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Thr
115 120 125

Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln Lys Pro
130 135 140

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser Ser Leu
145 150 155 160

Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp
165 170 175

Ile Cys Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Thr
180 185 190

Lys Ile His Leu Arg Gln Lys Asp Lys
195 200

<210> 435
<211> 194
<212> PRT
<213> Artificial Sequence

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

<400> 435
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1 5 10 15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
20 25 30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
35 40 45

Cys Arg Ile Cys Met Arg Asn Phe Ser His Arg Thr Thr Leu Thr Asn
50 55 60

His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65 70 75 80

Gly Arg Lys Phe Ala Arg Glu Asp Asn Leu His Thr His Ile Arg Thr
85 90 95

His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe
100 105 110

Ser Thr Ser His Ser Leu Thr Glu His Ile Arg Ile His Thr Gly Gln
115 120 125

Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Gln Ser Ser
130 135 140

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

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

His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser
180 185 190

Val Val

<210> 436
<211> 4
<212> PRT
<213> Artificial Sequence

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

<400> 436
Gly Gly Gly Ser
1

<210> 437
<211> 5
<212> PRT
<213> Artificial Sequence

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

<400> 437
Gly Gly Gly Gly Ser
1 5

<210> 438
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 438
Gly Gly Ser Gly
1

<210> 439
<211> 21
<212> DNA
<213> Artificial Sequence

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

<400> 439
attggtggga ggccactgta t 21

<210> 440
<211> 627
<212> PRT
<213> Artificial Sequence

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

<400> 440
Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro
85 90 95

```
Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn
            100                 105                 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu
        115                 120                 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn
    130                 135                 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly
145                 150                 155                 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser
                165                 170                 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys
            180                 185                 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr
        195                 200                 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala
    210                 215                 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr
225                 230                 235                 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu
                245                 250                 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys
            260                 265                 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro
        275                 280                 285

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

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg
```

```
305                 310                 315                 320

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg
                325                 330                 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            340                 345                 350

Asp Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        355                 360                 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His
    370                 375                 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile
385                 390                 395                 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ile Arg
                405                 410                 415

Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys
            420                 425                 430

Phe Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly
        435                 440                 445

Gln Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser
    450                 455                 460

Gly His Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe
465                 470                 475                 480

Ala Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr
                485                 490                 495

Glu His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys
            500                 505                 510

Ser Val Val Ala Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser
        515                 520                 525
```

Pro Val Ala Thr Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser
530 535 540

Pro Ala Thr Thr Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser
545 550 555 560

Pro Gly Ser Ser Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser
565 570 575

Pro Ser Val Ala Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala
580 585 590

Gln Val Ser Ser Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala
595 600 605

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

Glu Ile Cys
625

<210> 441
<211> 194
<212> PRT
<213> Artificial Sequence

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

<400> 441
Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg Pro
1 5 10 15

Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp
20 25 30

Asn Leu Val Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe Gln
35 40 45

Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Glu Asp Asn Leu His Thr
50 55 60

```
His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys
65                  70                  75                  80


Gly Arg Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His Ile Arg Thr
                85                  90                  95


His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile Cys Gly Arg Lys Phe
            100                 105                 110


Ser Gln Ser Gly Asn Leu Thr Glu His Ile Arg Ile His Thr Gly Gln
        115                 120                 125


Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Thr Ser Gly
    130                 135                 140


His Leu Val Arg His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala
145                 150                 155                 160


Cys Asp Ile Cys Gly Arg Lys Phe Ala Gln Asn Ser Thr Leu Thr Glu
                165                 170                 175


His Thr Lys Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser
            180                 185                 190


Val Val
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<210> 442
<211> 2259
<212> DNA
<213> Artificial Sequence

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

<400> 442
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ggtgaaaaac cttacaaatg tcctgaatgt gggaaatcat tcagtcgcag cgacaacctg 120

gtgagacatc aacgcaccca tacaggagaa aaaccttata aatgtccaga atgtggaaag 180

tccttctcac gagaggataa cttgcacact catcaacgaa cacatactgg tgaaaaacca 240

tacaagtgtc ccgaatgtgg taaaagtttt agccggagcg atgaacttgt ccgacaccaa 300

cgaacccata caggcgagaa gccttacaaa tgtcccgagt gtggcaagag cttctcacaa 360

tcagggaatc tgactgagca tcaacgaact cataccgggg aaaaacctta caagtgtcca 420

gagtgtggga agagctttc cacaagtgga catctggtac gccaccagag gacacataca 480

ggggagaagc cctacaaatg ccccgaatgc ggtaaaagtt tctctcagaa tagtaccctg 540

accgaacacc agcgaacaca cactgggaaa aaaacgagta aaaggccggc ggccacgaaa 600

aaggccggcc aggcaaaaaa gaaaaaggga tcctacccat acgacgtacc agattacgct 660

ctcgaggagg ccagcggttc cggacgggct gacgcattgg acgattttga tctggatatg 720

ctgggaagtg acgccctcga tgattttgac cttgacatgc ttggttcgga tgcccttgat 780

gactttgacc tcgacatgct cggcagtgac gcccttgatg atttcgacct ggacatgctg 840

attaactcta gaagttccgg atctccgaaa aagaaacgca aagttggtag ccagtacctg 900

cccgacaccg acgaccggca ccggatcgag gaaaagcgga agcggaccta cgagacattc 960

aagagcatca tgaagaagtc ccccttcagc ggccccaccg accctagacc tccacctaga 1020

agaatcgccg tgcccagcag atccagcgcc agcgtgccaa aacctgcccc ccagccttac 1080

cccttcacca gcagcctgag caccatcaac tacgacgagt tccctaccat ggtgttcccc 1140

agcggccaga tctctcaggc ctctgctctg gctccagccc ctcctcaggt gctgcctcag 1200

gctcctgctc ctgcaccagc tccagccatg gtgtctgcac tggctcaggc accagcaccc 1260

gtgcctgtgc tggctcctgg acctccacag gctgtggctc caccagcccc taaacctaca 1320

caggccggcg agggcacact gtctgaagct ctgctgcagc tgcagttcga cgacgaggat 1380

ctgggagccc tgctgggaaa cagcaccgat cctgccgtgt tcaccgacct ggccagcgtg 1440

gacaacagcg agttccagca gctgctgaac cagggcatcc ctgtggcccc tcacaccacc 1500

gagcccatgc tgatggaata ccccgaggcc atcacccggc tcgtgacagg cgctcagagg 1560

cctcctgatc cagctcctgc ccctctggga gcaccaggcc tgcctaatgg actgctgtct 1620

ggcgacgagg acttcagctc tatcgccgat atggatttct cagccttgct gggctctggc 1680

agcggcagcc gggattccag ggaagggatg tttttgccga agcctgaggc cggctccgct 1740

attagtgacg tgtttgaggg ccgcgaggtg tgccagccaa aacgaatccg gccatttcat 1800

cctccaggaa gtccatgggc caaccgccca ctccccgcca gcctcgcacc aacaccaacc 1860

ggtccagtac atgagccagt cgggtcactg accccggcac cagtccctca gccactggat 1920

ccagcgcccg cagtgactcc cgaggccagt cacctgttgg aggatcccga tgaagagacg 1980

agccaggctg tcaaagccct tcgggagatg gccgatactg tgattcccca gaaggaagag 2040

gctgcaatct gtggccaaat ggacctttcc catccgcccc caaggggcca tctggatgag 2100

ctgacaacca cacttgagtc catgaccgag gatctgaacc tggactcacc cctgaccccg 2160

gaattgaacg agattctgga taccttcctg aacgacgagt gcctcttgca tgccatgcat 2220

atcagcacag gactgtccat cttcgacaca tctctgttt 2259

<210> 443
<211> 816
<212> DNA
<213> Artificial Sequence

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

<400> 443
atggccccaa agaagaagcg gaaggtcggt atccacggag tcccagcagc cctcgaacca 60

ggtgaaaaac cttacaaatg tcctgaatgt gggaaatcat tcagtcgcag cgacaacctg 120

gtgagacatc aacgcaccca tacaggagaa aaaccttata aatgtccaga atgtggaaag 180

tccttctcac gagaggataa cttgcacact catcaacgaa cacatactgg tgaaaaacca 240

tacaagtgtc ccgaatgtgg taaaagtttt agccggagcg atgaacttgt ccgacaccaa 300

cgaacccata caggcgagaa gccttacaaa tgtcccgagt gtggcaagag cttctcacaa 360

tcagggaatc tgactgagca tcaacgaact cataccgggg aaaaacctta caagtgtcca 420

gagtgtggga agagctttc cacaagtgga catctggtac gccaccagag gacacataca 480

ggggagaagc cctacaaatg ccccgaatgc ggtaaaagtt tctctcagaa tagtaccctg 540

accgaacacc agcgaacaca cactgggaaa aaaacgagta aaaggccggc ggccacgaaa 600

aaggccggcc aggcaaaaaa gaaaaaggga tcctacccat acgacgtacc agattacgct 660

ctcgaggacg cgctggacga tttcgatctc gacatgctgg gttctgatgc cctcgatgac 720

tttgacctgg atatgttggg aagcgacgca ttggatgact ttgatctgga catgctcggc 780

tccgatgctc tggacgattt cgatctcgat atgtta 816

<210> 444
<211> 816
<212> DNA
<213> Artificial Sequence

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

<400> 444
atggccccaa agaagaagcg gaaggtcggt atccacggag tcccagcagc cctcgaacca 60

ggtgaaaaac cttacaaatg tcctgaatgt gggaaatcat tcagtcgcag cgacaacctg 120

gtgagacatc aacgcaccca tacaggagaa aaaccttata aatgtccaga atgtggaaag 180

tccttctcac gagaggataa cttgcacact catcaacgaa cacatactgg tgaaaaacca 240

tacaagtgtc ccgaatgtgg taaaagtttt agccggagcg atgaacttgt ccgacaccaa 300

cgaacccata caggcgagaa gccttacaaa tgtcccgagt gtggcaagag cttctcacaa 360

tcagggaatc tgactgagca tcaacgaact cataccgggg aaaaacctta caagtgtcca 420

gagtgtggga agagctttc cacaagtgga catctggtac gccaccagag gacacataca 480

ggggagaagc cctacaaatg ccccgaatgc ggtaaaagtt tctctcagaa tagtaccctg 540

accgaacacc agcgaacaca cactgggaaa aaaacgagta aaaggccggc ggccacgaaa 600

aaggccggcc aggcaaaaaa gaaaaaggga tcctacccat acgacgtacc agattacgct 660

ctcgaggacg cgctggacga tttcgatctc gacatgctgg gttctgatgc cctcgatgac 720

tttgacctgg atatgttggg aagcgacgca ttggatgact ttgatctgga catgctcggc 780

tccgatgctc tggacgattt cgatctcgat atgtta 816

<210> 445
<211> 1893
<212> DNA
<213> Artificial Sequence

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

<400> 445
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ggatcctttc ctcactcgcc caccatggac aactacccta agctggagga gatgatgctg 120

ctgagcaacg gggctcccca gttcctcggc gccgccgggg ccccagaggg cagcggcagc 180

aacagcagca gcagcagcag cgggggcggt ggaggcggcg ggggcggcag caacagcagc 240

agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta cgagcacctg 300

accgcagagt cttttcctga catctctctg aacaacgaga aggtgctggt ggagaccagt 360

taccccagcc aaaccactcg actgcccccc atcacctata ctggccgctt ttccctggag 420

cctgcaccca acagtggcaa caccttgtgg cccgagcccc tcttcagctt ggtcagtggc 480

ctagtgagca tgaccaaccc accggcctcc tcgtcctcag caccatctcc agcggcctcc 540

tccgcctccg cctcccagag cccacccctg agctgcgcag tgccatccaa cgacagcagt 600

cccatttact cagcggcacc caccttcccc acgccgaaca ctgacatttt ccctgagcca 660

caaagccagg ccttcccggg ctcggcaggg acagcgctcc agtacccgcc tcctgcctac 720

cctgccgcca agggtggctt ccaggttccc atgatccccg actacctgtt tccacagcag 780

caggggggatc tgggcctggg caccccagac cagaagccct tccagggcct ggagagccgc 840

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tcccaggacc tgaaggccct caataccagc taccagtccc agctcatcaa acccagccgc 960

atgcgcaagt accccaaccg gcccagcaag acgccccccc acgaacgccc ttacgcttgc 1020

ccagtggagt cctgtgatcg ccgcttctcc cgcagcgaca acctggtgag acacatccgc 1080

atccacacag gccagaagcc cttccagtgc cgcatctgca tgagaaactt cagccgagag 1140

gataacttgc acactcacat ccgcacccac acaggcgaaa agcccttcgc ctgcgacatc 1200

tgtggaagaa agtttgcccg gagcgatgaa cttgtccgac ataccaagat ccacttgcgg 1260

cagaaggacc gcccttacgc ttgcccagtg gagtcctgtg atcgccgctt ctcccaatca 1320

gggaatctga ctgagcacat ccgcatccac acaggccaga agcccttcca gtgccgcatc 1380

tgcatgagaa acttcagcac aagtggacat ctggtacgcc acatccgcac ccacacaggc 1440

gaaaagccct tcgcctgcga catctgtgga agaaagtttg cccagaatag taccctgacc 1500

gaacatacca agatccactt gcggcagaag gacaagaaag cagacaaaag tgttgtggct 1560

agctcggcca cctcctctct ctcttcctac ccgtccccgg ttgctacctc ttacccgtcc 1620

ccggttacta cctcttatcc atccccggcc accacctcat acccatcccc tgtgcccacc 1680

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ccgtcggtgg ccaccacgta ctcctctgtt ccccctgctt tcccggccca ggtcagcagc 1800

ttcccttcct cagctgtcac caactccttc agcgcctcca cagggctttc ggacatgaca 1860

gcaacctttt ctcccaggac aattgaaatt tgc 1893

<210> 446
<211> 1740
<212> DNA
<213> Artificial Sequence

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

<400> 446
atggccgccg accacctgat gctcgccgag ggctaccgcc tggtgcagag gccgccgtcc 60

gccgccgccg cccatggccc tcatgcgctc cggactctgc cgccgtacgc gggcccgggc 120

ctggacagtg ggctgaggcc gcgggggggct ccgctggggc cgccgccgcc ccgccaaccc 180

ggggccctgg cgtacggggc cttcgggccg ccgtcctcct tccagccctt tccggccgtg 240

cctccgccgg ccgcgggcat cgcgcacctg cagcctgtgg cgacgccgta ccccggccgc 300

gcggccgcgc cccccaacgc tccgggaggc cccccgggcc cgcagccggc cccaagcgcc 360

gcagccccgc cgccgcccgc gcacgccctg ggcggcatgg acgccgaact catcgacgag 420

gaggcgctga cgtcgctgga gctggagctg gggctgcacc gcgtgcgcga gctgcccgag 480

ctgttcctgg gccagagcga gttcgactgc ttctcggact tggggtccgc gccgcccgcc 540

ggctccgtga gctgcggtgg ttctggtggt ggttctggtc agtcccagct catcaaaccc 600

agccgcatgc gcaagtaccc caaccggccc agcaagacgc ccccccacga acgcccttac 660

gcttgcccag tggagtcctg tgatcgccgc ttctcccgca gcgacaacct ggtgagacac 720

atccgcatcc acacaggcca gaagcccttc cagtgccgca tctgcatgag aaacttcagc 780

cgagaggata acttgcacac tcacatccgc acccacacag gcgaaaagcc cttcgcctgc 840

gacatctgtg gaagaaagtt tgcccggagc gatgaacttg tccgacatac caagatccac 900

ttgcggcaga aggaccgccc ttacgcttgc ccagtggagt cctgtgatcg ccgcttctcc 960

caatcaggga atctgactga gcacatccgc atccacacag gccagaagcc cttccagtgc 1020

cgcatctgca tgagaaactt cagcacaagt ggacatctgg tacgccacat ccgcacccac 1080

acaggcgaaa agcccttcgc ctgcgacatc tgtggaagaa agtttgccca gaatagtacc 1140

ctgaccgaac ataccaagat ccacttgcgg cagaaggaca agctcgagat ggccgaccac 1200

ctgatgctcg ccgagggcta ccgcctggtg cagaggccgc cgtccgccgc cgccgcccat 1260

ggccctcatg cgctccggac tctgccgccg tacgcgggcc cgggcctgga cagtgggctg 1320

aggccgcggg gggctccgct ggggccgccg ccgccccgcc aacccggggc cctggcgtac 1380

ggggccttcg ggccgccgtc ctccttccag ccctttccgg ccgtgcctcc gccggccgcg 1440

ggcatcgcgc acctgcagcc tgtggcgacg ccgtaccccg gccgcgcggc cgcgcccccc 1500

aacgctccgg gaggcccccc gggcccgcag ccggccccaa gcgccgcagc cccgccgccg 1560

cccgcgcacg ccctgggcgg catggacgcc gaactcatcg acgaggaggc gctgacgtcg 1620

ctggagctgg agctggggct gcaccgcgtg cgcgagctgc ccgagctgtt cctgggccag 1680

agcgagttcg actgcttctc ggacttgggg tccgcgccgc ccgccggctc cgtgagctgc 1740

<210> 447
<211> 1881
<212> DNA
<213> Artificial Sequence

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

<400> 447
atggccgcgg ccaaggccga gatgcagctg atgtccccgc tgcagatctc tgacccgttc 60

ggatcctttc ctcactcgcc caccatggac aactacccta agctggagga gatgatgctg 120

ctgagcaacg gggctcccca gttcctcggc gccgccgggg ccccagaggg cagcggcagc 180

aacagcagca gcagcagcag cgggggcggt ggaggcggcg ggggcggcag caacagcagc 240

agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta cgagcacctg 300

accgcagagt cttttcctga catctctctg aacaacgaga aggtgctggt ggagaccagt 360

taccccagcc aaaccactcg actgcccccc atcacctata ctggccgctt ttccctggag 420

cctgcaccca acagtggcaa caccttgtgg cccgagcccc tcttcagctt ggtcagtggc 480

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cccatttact cagcggcacc caccttcccc acgccgaaca ctgacatttt ccctgagcca 660

caaagccagg ccttcccggg ctcggcaggg acagcgctcc agtacccgcc tcctgcctac 720

cctgccgcca agggtggctt ccaggttccc atgatccccg actacctgtt tccacagcag 780

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tcccaggacc tgaaggccct caataccagc taccagtccc agctcatcaa acccagccgc 960

atgcgcaagt accccaaccg gcccagcaag acgccccccc acgaacgccc ttacgcttgc 1020

ccagtggagt cctgtgatcg ccgcttctcc cgctcagaca acctcgttcg acacatccgc 1080

atccacacag gccagaagcc cttccagtgc cgcatctgca tgagaaactt cagccaccgg 1140

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gagaagccat tcgcatgtga tatatgtggg agaaagttct ccaccagcca ttctctcact 1320

gaacacatcc gcatccacac aggccagaag cccttccagt gccgcatctg catgagaaac 1380

ttcagccagt ctagctcact ggtgaggcac atccgcaccc acacaggcga aaagcccttc 1440

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atccacttgc ggcagaagga caagaaagca gacaaaagtg ttgtggctag ctcggccacc 1560

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cccggctcct cgacctaccc atcccctgtg cacagtggct tcccctcccc gtcggtggcc 1740

accacgtact cctctgttcc ccctgctttc ccggcccagg tcagcagctt cccttcctca 1800

gctgtcacca actccttcag cgcctccaca gggctttcgg acatgacagc aacctttct 1860

cccaggacaa ttgaaatttg c 1881

<210> 448
<211> 1182
<212> DNA
<213> Artificial Sequence

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

<400> 448
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gccgccgccg cccatggccc tcatgcgctc cggactctgc cgccgtacgc gggcccgggc 120

ctggacagtg ggctgaggcc gcgggggct ccgctggggc cgccgccgcc ccgccaaccc 180

ggggccctgg cgtacggggc cttcgggccg ccgtcctcct tccagccctt tccggccgtg 240

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gcggccgcgc cccccaacgc tccgggaggc cccccgggcc cgcagccggc cccaagcgcc 360

gcagccccgc cgccgcccgc gcacgccctg ggcggcatgg acgccgaact catcgacgag 420

gaggcgctga cgtcgctgga gctggagctg gggctgcacc gcgtgcgcga gctgcccgag 480

ctgttcctgg gccagagcga gttcgactgc ttctcggact tggggtccgc gccgcccgcc 540

ggctccgtga gctgcggtgg ttctggtggt ggttctggtc agtcccagct catcaaaccc 600

agccgcatgc gcaagtaccc caaccggccc agcaagacgc ccccccacga acgcccttac 660

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gacatctgtg gaagaaagtt tgcccggagc gatgaacttg tccgacatac caagatccac 900

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caatcaggga atctgactga gcacatccgc atccacacag gccagaagcc cttccagtgc 1020

cgcatctgca tgagaaactt cagcacaagt ggacatctgg tacgccacat ccgcacccac 1080

acaggcgaaa agcccttcgc ctgcgacatc tgtggaagaa agtttgccca gaatagtacc 1140

ctgaccgaac ataccaagat ccacttgcgg cagaaggaca ag 1182

<210> 449
<211> 1740
<212> DNA
<213> Artificial Sequence

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

<400> 449
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gccgccgccg cccatggccc tcatgcgctc cggactctgc cgccgtacgc gggcccgggc 120

ctggacagtg ggctgaggcc gcgggggct ccgctggggc cgccgccgcc ccgccaaccc 180

ggggccctgg cgtacggggc cttcgggccg ccgtcctcct tccagccctt tccggccgtg 240

cctccgccgg ccgcgggcat cgcgcacctg cagcctgtgg cgacgccgta ccccggccgc 300

gcggccgcgc cccccaacgc tccgggaggc cccccgggcc cgcagccggc cccaagcgcc 360

gcagccccgc cgccgcccgc gcacgccctg ggcggcatgg acgccgaact catcgacgag 420

gaggcgctga cgtcgctgga gctggagctg gggctgcacc gcgtgcgcga gctgcccgag 480

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ggctccgtga gctgcggtgg ttctggtggt ggttctggtc agtcccagct catcaaaccc 600

agccgcatgc gcaagtaccc caaccggccc agcaagacgc ccccccacga acgcccttac 660

gcttgcccag tggagtcctg tgatcgccgc ttctcccgct cagacaacct cgttcgacac 720

atccgcatcc acacaggcca gaagcccttc cagtgccgca tctgcatgag aaacttcagc 780

caccggacta cactcacgaa ccacatccgc acccacacag gcgaaaagcc cttcgcctgc 840

gacatctgtg gaagaaagtt tgccagagaa gacaatctcc atactcatac caagatccac 900

ttgcggcaga aggaccgccc ttacgcttgc ccagtggagt cctgtgatcg ccgcttctcc 960

accagccatt ctctcactga acacatccgc atccacacag gccagaagcc cttccagtgc 1020

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ggggccttcg ggccgccgtc ctccttccag ccctttccgg ccgtgcctcc gccggccgcg 1440

ggcatcgcgc acctgcagcc tgtggcgacg ccgtaccccg gccgcgcggc cgcgcccccc 1500

aacgctccgg gaggcccccc gggcccgcag ccggccccaa gcgccgcagc cccgccgccg 1560

cccgcgcacg ccctgggcgg catggacgcc gaactcatcg acgaggaggc gctgacgtcg 1620

ctggagctgg agctggggct gcaccgcgtg cgcgagctgc ccgagctgtt cctgggccag 1680

agcgagttcg actgcttctc ggacttgggg tccgcgccgc ccgccggctc cgtgagctgc 1740

<210> 450
<211> 1182
<212> DNA
<213> Artificial Sequence

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

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ctggacagtg ggctgaggcc gcgggggct ccgctggggc cgccgccgcc ccgccaaccc 180

ggggccctgg cgtacggggc cttcgggccg ccgtcctcct tccagccctt tccggccgtg 240

cctccgccgg ccgcgggcat cgcgcacctg cagcctgtgg cgacgccgta ccccggccgc 300

gcggccgcgc cccccaacgc tccgggaggc cccccgggcc cgcagccggc cccaagcgcc 360

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ttgcggcaga aggaccgccc ttacgcttgc ccagtggagt cctgtgatcg ccgcttctcc 960

accagccatt ctctcactga acacatccgc atccacacag gccagaagcc cttccagtgc 1020

cgcatctgca tgagaaactt cagccagtct agctcactgg tgaggcacat ccgcacccac 1080

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ctgcatacgc ataccaagat ccacttgcgg cagaaggaca ag 1182

<210> 451
<211> 1893

<212> DNA
<213> Artificial Sequence

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

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ctgagcaacg gggctcccca gttcctcggc gccgccgggg ccccagaggg cagcggcagc 180

aacagcagca gcagcagcag cgggggcggt ggaggcggcg ggggcggcag caacagcagc 240

agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta cgagcacctg 300

accgcagagt cttttcctga catctctctg aacaacgaga aggtgctggt ggagaccagt 360

taccccagcc aaaccactcg actgcccccc atcacctata ctggccgctt ttccctggag 420

cctgcaccca acagtggcaa caccttgtgg cccgagcccc tcttcagctt ggtcagtggc 480

ctagtgagca tgaccaaccc accggcctcc tcgtcctcag caccatctcc agcggcctcc 540

tccgcctccg cctcccagag cccacccctg agctgcgcag tgccatccaa cgacagcagt 600

cccatttact cagcggcacc caccttcccc acgccgaaca ctgacatttt ccctgagcca 660

caaagccagg ccttcccggg ctcggcaggg acagcgctcc agtacccgcc tcctgcctac 720

cctgccgcca agggtggctt ccaggttccc atgatccccg actacctgtt tccacagcag 780

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gataacttgc acactcacat ccgcacccac acaggcgaaa agcccttcgc ctgcgacatc 1200

tgtggaagaa agtttgcccg gagcgatgaa cttgtccgac ataccaagat ccacttgcgg 1260

cagaaggacc gcccttacgc ttgcccagtg gagtcctgtg atcgccgctt ctcccaatca 1320

gggaatctga ctgagcacat ccgcatccac acaggccaga agcccttcca gtgccgcatc 1380

tgcatgagaa acttcagcac aagtggacat ctggtacgcc acatccgcac ccacacaggc 1440

gaaaagccct tcgcctgcga catctgtgga agaaagtttg cccagaatag taccctgacc 1500

gaacatacca agatccactt gcggcagaag gacaagaaag cagacaaaag tgttgtggct 1560

agctcggcca cctcctctct ctcttcctac ccgtccccgg ttgctacctc ttacccgtcc 1620

ccggttacta cctcttatcc atccccggcc accacctcat acccatcccc tgtgcccacc 1680

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ccgtcggtgg ccaccacgta ctcctctgtt ccccctgctt tcccggccca ggtcagcagc 1800

ttcccttcct cagctgtcac caactccttc agcgcctcca cagggctttc ggacatgaca 1860

gcaacctttt ctcccaggac aattgaaatt tgc 1893

<210> 452
<211> 1881
<212> DNA
<213> Artificial Sequence

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

<400> 452
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ctgagcaacg gggctcccca gttcctcggc gccgccgggg ccccagaggg cagcggcagc 180

aacagcagca gcagcagcag cgggggcggt ggaggcggcg ggggcggcag caacagcagc 240

agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta cgagcacctg 300

accgcagagt cttttcctga catctctctg aacaacgaga aggtgctggt ggagaccagt 360

taccccagcc aaaccactcg actgcccccc atcacctata ctggccgctt ttccctggag 420

cctgcaccca acagtggcaa caccttgtgg cccgagcccc tcttcagctt ggtcagtggc 480

ctagtgagca tgaccaaccc accggcctcc tcgtcctcag caccatctcc agcggcctcc 540

tccgcctccg cctcccagag cccacccctg agctgcgcag tgccatccaa cgacagcagt 600

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tcccaggacc tgaaggccct caataccagc taccagtccc agctcatcaa acccagccgc 960

atgcgcaagt accccaaccg gcccagcaag acgccccccc acgaacgccc ttacgcttgc 1020

ccagtggagt cctgtgatcg ccgcttctcc cgcagcgaca acctggtgag acacatccgc 1080

atccacacag gccagaagcc cttccagtgc cgcatctgca tgagaaactt cagccgagag 1140

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gagaagccat tcgcatgtga tatatgtggg agaaagttct cccaatcagg gaatctgact 1320

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accacgtact cctctgttcc ccctgctttc ccggcccagg tcagcagctt cccttcctca 1800

gctgtcacca actccttcag cgcctccaca gggctttcgg acatgacagc aacctttct 1860

cccaggacaa ttgaaatttg c 1881

<210> 453
<211> 1881
<212> DNA
<213> Artificial Sequence

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

<400> 453
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ctgagcaacg gggctcccca gttcctcggc gccgccgggg ccccagaggg cagcggcagc 180

aacagcagca gcagcagcag cgggggcggt ggaggcggcg ggggcggcag caacagcagc 240

agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta cgagcacctg 300

accgcagagt cttttcctga catctctctg aacaacgaga aggtgctggt ggagaccagt 360

taccccagcc aaaccactcg actgcccccc atcacctata ctggccgctt ttccctggag 420

cctgcaccca acagtggcaa caccttgtgg cccgagcccc tcttcagctt ggtcagtggc 480

ctagtgagca tgaccaaccc accggcctcc tcgtcctcag caccatctcc agcggcctcc 540

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gagaagccat tcgcatgtga tatatgtggg agaaagttct ccaccagcca ttctctcact 1320

gaacacatcc gcatccacac aggccagaag cccttccagt gccgcatctg catgagaaac 1380

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accacgtact cctctgttcc ccctgctttc ccggcccagg tcagcagctt cccttcctca 1800

gctgtcacca actccttcag cgcctccaca gggctttcgg acatgacagc aacctttttct 1860

cccaggacaa ttgaaatttg c 1881

<210> 454
<211> 4436
<212> DNA
<213> Artificial Sequence

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

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attttgaagt tctgttgaca taaagaatca tgatattaat gcccatggaa atgaaagggc 120

gatcaacact atggtttgaa aaggggggaaa ttgtagagca cagatgtgtt cgtgtggcag 180

tgtgctgtct ctagcaatac tcagagaaga gagagaacaa tgaaattctg attggcccca 240

gtgtgagccc agatgaggtt cagctgccaa ctttctcttt cacatcttat gaaagtcatt 300

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ctcgaactcc tggcctcaag tgatccacct gcctcggcct cccaaagtgc tgggattata 600

ggcgtcagcc actatgccca acccgaccaa ccttttttaa aataaatatt taaaaaattg 660

gtatttcaca tatatactag tatttacatt tatccacaca aaacggacgg gcctccgctg 720

aaccagtgag gccccagacg tgcgcataaa taacccctgc gtgctgcacc acctggggag 780

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gagctcaagg aagcgtcgca gggtcacaga tctgggggaa ccccggggaa aagcactgag 960

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gggagtgccc ggctcgctgt cgcagagccg aggtgggtaa gctagcgacc acctggactt 1440

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caaagtccct agtccccgga gcagttagcc tctttctttc cagggaatta gccagacaca 1800

acaacgggaa ccagacaccg aaccagacat gcccgccccg tgcgccctcc ccgctcgctg 1860

cctttcctcc ctcttgtctc tccagagccg gatcttcaag gggagcctcc gtgcccccgg 1920

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cccacgaacg cccttacgct tgcccagtgg agtcctgtga tcgccgcttc tcccgcagcg 3120

acaacctggt gagacacatc cgcatccaca caggccagaa gcccttccag tgccgcatct 3180

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tctcccaatc agggaatctg actgagcaca tccgcatcca cacaggccag aagcccttcc 3420

agtgccgcat ctgcatgaga aacttcagca caagtggaca tctggtacgc cacatccgca 3480

cccacacagg cgaaaagccc ttcgcctgcg acatctgtgg aagaaagttt gcccagaata 3540

gtaccctgac cgaacatacc aagatccact tgcggcagaa ggacaagaaa gcagacaaaa 3600

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