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<120> Modified enzyme

<130> 21078288

<160> 74

<170> PatentIn version 3.5

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<213> HOMO SAPIENS

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Cys Tyr Gly Asp Ser Gly Gln Pro Val Asp Trp Phe Val Val Tyr Lys
1               5                   10                  15


Leu Pro Ala Leu Arg Gly Ser Gly Glu Ala Ala Gln Arg Gly Leu Gln
            20                  25                  30


Tyr Lys Tyr Leu Asp Glu Ser Ser Gly Gly Trp Arg Asp Gly Arg Ala
        35                  40                  45


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


Tyr Arg Ser Asn Thr Ser Gln Leu Ala Phe Leu Leu Tyr Asn Asp Gln
65                  70                  75                  80


Pro Pro Gln Pro Ser Lys Ala Gln Asp Ser Ser Met Arg Gly His Thr
                85                  90                  95


Lys Gly Val Leu Leu Leu Asp His Asp Gly Gly Phe Trp Leu Val His
            100                 105                 110


Ser Val Pro Asn Phe Pro Pro Pro Ala Ser Ser Ala Ala Tyr Ser Trp
```

```
        115                 120                 125

Pro His Ser Ala Cys Thr Tyr Gly Gln Thr Leu Leu Cys Val Ser Phe
    130                 135                 140

Pro Phe Ala Gln Phe Ser Lys Met Gly Lys Gln Leu Thr Tyr Thr Tyr
145                 150                 155                 160

Pro Trp Val Tyr Asn Tyr Gln Leu Glu Gly Ile Phe Ala Gln Glu Phe
                165                 170                 175

Pro Asp Leu Glu Asn Val Val Lys Gly His His Val Ser Gln Glu Pro
            180                 185                 190

Trp Asn Ser Ser Ile Thr Leu Thr Ser Gln Ala Gly Ala Val Phe Gln
        195                 200                 205

Ser Phe Ala Lys Phe Ser Lys Phe Gly Asp Asp Leu Tyr Ser Gly Trp
    210                 215                 220

Leu Ala Ala Ala Leu Gly Thr Asn Leu Gln Val Gln Phe Trp His Lys
225                 230                 235                 240

Thr Val Gly Ile Leu Pro Ser Asn Cys Ser Asp Ile Trp Gln Val Leu
                245                 250                 255

Asn Val Asn Gln Ile Ala Phe Pro Gly Pro Ala Gly Pro Ser Phe Asn
            260                 265                 270

Ser Thr Glu Asp His Ser Lys Trp Cys Val Ser Pro Lys Gly Pro Trp
        275                 280                 285

Thr Cys Val Gly Asp Met Asn Arg Asn Gln Gly Glu Glu Gln Arg Gly
    290                 295                 300

Gly Gly Thr Leu Cys Ala Gln Leu Pro Ala Leu Trp Lys Ala Phe Gln
```

305 310 315 320

Pro Leu Val Lys Asn Tyr Gln Pro Cys Asn Gly Met Ala Arg Lys Pro
325 330 335

Ser Arg Ala Tyr Lys Ile
340

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Ala Ala Glu Leu Ser Tyr Ser Leu Arg Gly Asn Trp Ser Ile Cys Asn
1 5 10 15

Gly Asn Gly Ser Leu Glu Leu Pro Gly Ala Val Pro Gly Cys Val His
20 25 30

Ser Ala Leu Phe Gln Gln Gly Leu Ile Gln Asp Ser Tyr Tyr Arg Phe
35 40 45

Asn Asp Leu Asn Tyr Arg Trp Val Ser Leu Asp Asn Trp Thr Tyr Ser
50 55 60

Lys Glu Phe Lys Ile Pro Phe Glu Ile Ser Lys Trp Gln Lys Val Asn
65 70 75 80

Leu Ile Leu Glu Gly Val Asp Thr Val Ser Lys Ile Leu Phe Asn Glu
85 90 95

Val Thr Ile Gly Glu Thr Asp Asn Met Phe Asn Arg Tyr Ser Phe Asp
100 105 110

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

```
Ser Ala Val Leu Tyr Ala Ala Gln Gln Ser Lys Ala His Thr Arg Tyr
    130                 135                 140

Gln Val Pro Pro Asp Cys Pro Pro Leu Val Gln Lys Gly Glu Cys His
145                 150                 155                 160

Val Asn Phe Val Arg Lys Glu Gln Cys Ser Phe Ser Trp Asp Trp Gly
                165                 170                 175

Pro Ser Phe Pro Thr Gln Gly Ile Trp Lys Asp Val Arg Ile Glu Ala
            180                 185                 190

Tyr Asn Ile Cys His Leu Asn Tyr Phe Thr Phe Ser Pro Ile Tyr Asp
        195                 200                 205

Lys Ser Ala Gln Glu Trp Asn Leu Glu Ile Glu Ser Thr Phe Asp Val
    210                 215                 220

Val Ser Ser Lys Pro Val Gly Gly Gln Val Ile Val Ala Ile Pro Lys
225                 230                 235                 240

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

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

Trp Trp Pro His Gly His Gly Asn Gln Thr Gly Tyr Asn Met Thr Val
        275                 280                 285

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

Tyr Phe Arg Thr Val Glu Leu Ile Glu Glu Pro Ile Lys Gly Ser Pro
305                 310                 315                 320
```

```
Gly Leu Ser Phe Tyr Phe Lys Ile Asn Gly Phe Pro Ile Phe Leu Lys
                325                 330                 335

Gly Ser Asn Trp Ile Pro Ala Asp Ser Phe Gln Asp Arg Val Thr Ser
            340                 345                 350

Glu Leu Leu Arg Leu Leu Leu Gln Ser Val Val Asp Ala Asn Met Asn
        355                 360                 365

Thr Leu Arg Val Trp Gly Gly Gly Ile Tyr Glu Gln Asp Glu Phe Tyr
    370                 375                 380

Glu Leu Cys Asp Glu Leu Gly Ile Met Val Trp Gln Asp Phe Met Phe
385                 390                 395                 400

Ala Cys Ala Leu Tyr Pro Thr Asp Gln Gly Phe Leu Asp Ser Val Thr
                405                 410                 415

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

Ile Ile Trp Ser Gly Asn Asn Glu Asn Glu Glu Ala Leu Met Met Asn
        435                 440                 445

Trp Tyr His Ile Ser Phe Thr Asp Arg Pro Ile Tyr Ile Lys Asp Tyr
    450                 455                 460

Val Thr Leu Tyr Val Lys Asn Ile Arg Glu Leu Val Leu Ala Gly Asp
465                 470                 475                 480

Lys Ser Arg Pro Phe Ile Thr Ser Ser Pro Thr Asn Gly Ala Glu Thr
                485                 490                 495

Val Ala Glu Ala Trp Val Ser Gln Asn Pro Asn Ser Asn Tyr Phe Gly
            500                 505                 510
```

```
Asp Val His Phe Tyr Asp Tyr Ile Ser Asp Cys Trp Asn Trp Lys Val
        515                 520                 525

Phe Pro Lys Ala Arg Phe Ala Ser Glu Tyr Gly Tyr Gln Ser Trp Pro
    530                 535                 540

Ser Phe Ser Thr Leu Glu Lys Val Ser Ser Thr Glu Asp Trp Ser Phe
545                 550                 555                 560

Asn Ser Lys Phe Ser Leu His Arg Gln His His Glu Gly Gly Asn Lys
                565                 570                 575

Gln Met Leu Tyr Gln Ala Gly Leu His Phe Lys Leu Pro Gln Ser Thr
            580                 585                 590

Asp Pro Leu Arg Thr Phe Lys Asp Thr Ile Tyr Leu Thr Gln Val Met
        595                 600                 605

Gln Ala Gln Cys Val Lys Thr Glu Thr Glu Phe Tyr Arg Arg Ser Arg
    610                 615                 620

Ser Glu Ile Val Asp Gln Gln Gly His Thr Met Gly Ala Leu Tyr Trp
625                 630                 635                 640

Gln Leu Asn Asp Ile Trp Gln Ala Pro Ser Trp Ala Ser Leu Glu Tyr
                645                 650                 655

Gly Gly Lys Trp Lys Met Leu His Tyr Phe Ala Gln Asn Phe Phe Ala
            660                 665                 670

Pro Leu Leu Pro Val Gly Phe Glu Asn Glu Asn Thr Phe Tyr Ile Tyr
        675                 680                 685

Gly Val Ser Asp Leu His Ser Asp Tyr Ser Met Thr Leu Ser Val Arg
    690                 695                 700
```

```
Val His Thr Trp Ser Ser Leu Glu Pro Val Cys Ser Arg Val Thr Glu
705                 710                 715                 720


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


Val Ser Glu Leu Leu Arg Arg Cys Gly Asn Cys Thr Arg Glu Ser Cys
            740                 745                 750


Val Val Ser Phe Tyr Leu Ser Ala Asp His Glu Leu Leu Ser Pro Thr
        755                 760                 765


Asn Tyr His Phe Leu Ser Ser Pro Lys Glu Ala Val Gly Leu Cys Lys
    770                 775                 780


Ala Gln Ile Thr Ala Ile Ile Ser Gln Gln Gly Asp Ile Phe Val Phe
785                 790                 795                 800


Asp Leu Glu Thr Ser Ala Val Ala Pro Phe Val Trp Leu Asp Val Gly
                805                 810                 815


Ser Ile Pro Gly Arg Phe Ser Asp Asn Gly Phe Leu Met Thr Glu Lys
            820                 825                 830


Thr Arg Thr Ile Leu Phe Tyr Pro Trp Glu Pro Thr Ser Lys Asn Glu
        835                 840                 845


Leu Glu Gln Ser Phe His Val Thr Ser Leu Thr Asp Ile Tyr
    850                 855                 860
```

<210> 3
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<400> 3

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Asp Lys Arg Leu Arg Asp Asn His Glu Trp Lys Lys Leu Ile Met Val
1               5                  10                  15

Gln His Trp Pro Glu Thr Val Cys Glu Lys Ile Gln Asn Asp Cys Arg
            20                  25                  30

Asp Pro Pro Asp Tyr Trp Thr Ile His Gly Leu Trp Pro Asp Lys Ser
        35                  40                  45

Glu Gly Cys Asn Arg Ser Trp Pro Phe Asn Leu Glu Glu Ile Lys Asp
    50                  55                  60

Leu Leu Pro Glu Met Arg Ala Tyr Trp Pro Asp Val Ile His Ser Phe
65                  70                  75                  80

Pro Asn Arg Ser Arg Phe Trp Lys His Glu Trp Glu Lys His Gly Thr
                85                  90                  95

Cys Ala Ala Gln Val Asp Ala Leu Asn Ser Gln Lys Lys Tyr Phe Gly
            100                 105                 110

Arg Ser Leu Glu Leu Tyr Arg Glu Leu Asp Leu Asn Ser Val Leu Leu
        115                 120                 125

Lys Leu Gly Ile Lys Pro Ser Ile Asn Tyr Tyr Gln Val Ala Asp Phe
    130                 135                 140

Lys Asp Ala Leu Ala Arg Val Tyr Gly Val Ile Pro Lys Ile Gln Cys
145                 150                 155                 160

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

Leu Cys Leu Thr Lys Gln Asp Gln Gln Leu Gln Asn Cys Thr Glu Pro
            180                 185                 190
```

```
Gly Glu Gln Pro Ser Pro Lys Gln Glu Val Trp Leu Ala Asn Gly Ala
        195                 200                 205


Ala Glu Ser Arg Gly Leu Arg Val Cys Glu Asp Gly Pro Val Phe Tyr
    210                 215                 220


Pro Pro Pro Lys Lys Thr Lys His
225                 230


<210>  4
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<212>  PRT
<213>  HOMO SAPIENS

<400>  4

Gly Gly Tyr Glu Thr Cys Pro Thr Val Gln Pro Asn Met Leu Asn Val
1               5                   10                  15


His Leu Leu Pro His Thr His Asp Asp Val Gly Trp Leu Lys Thr Val
            20                  25                  30


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


Gln Tyr Ile Leu Asp Ser Val Ile Ser Ala Leu Leu Ala Asp Pro Thr
    50                  55                  60


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


Gln Gln Thr Asn Ala Thr Gln Glu Val Val Arg Asp Leu Val Arg Gln
                85                  90                  95


Gly Arg Leu Glu Phe Ala Asn Gly Gly Trp Val Met Asn Asp Glu Ala
            100                 105                 110
```

```
Ala Thr His Tyr Gly Ala Ile Val Asp Gln Met Thr Leu Gly Leu Arg
        115                 120                 125

Phe Leu Glu Asp Thr Phe Gly Asn Asp Gly Arg Pro Arg Val Ala Trp
    130                 135                 140

His Ile Asp Pro Phe Gly His Ser Arg Glu Gln Ala Ser Leu Phe Ala
145                 150                 155                 160

Gln Met Gly Phe Asp Gly Phe Phe Phe Gly Arg Leu Asp Tyr Gln Asp
                165                 170                 175

Lys Trp Val Arg Met Gln Lys Leu Glu Met Glu Gln Val Trp Arg Ala
            180                 185                 190

Ser Thr Ser Leu Lys Pro Pro Thr Ala Asp Leu Phe Thr Gly Val Leu
        195                 200                 205

Pro Asn Gly Tyr Asn Pro Pro Arg Asn Leu Cys Trp Asp Val Leu Cys
    210                 215                 220

Val Asp Gln Pro Leu Val Glu Asp Pro Arg Ser Pro Glu Tyr Asn Ala
225                 230                 235                 240

Lys Glu Leu Val Asp Tyr Phe Leu Asn Val Ala Thr Ala Gln Gly Arg
                245                 250                 255

Tyr Tyr Arg Thr Asn His Thr Val Met Thr Met Gly Ser Asp Phe Gln
            260                 265                 270

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

Leu Val Asn Ala Gln Gln Ala Lys Gly Ser Ser Val His Val Leu Tyr
    290                 295                 300
```

```
Ser Thr Pro Ala Cys Tyr Leu Trp Glu Leu Asn Lys Ala Asn Leu Thr
305                 310                 315                 320


Trp Ser Val Lys His Asp Asp Phe Phe Pro Tyr Ala Asp Gly Pro His
                325                 330                 335


Gln Phe Trp Thr Gly Tyr Phe Ser Ser Arg Pro Ala Leu Lys Arg Tyr
            340                 345                 350


Glu Arg Leu Ser Tyr Asn Phe Leu Gln Val Cys Asn Gln Leu Glu Ala
        355                 360                 365


Leu Val Gly Leu Ala Ala Asn Val Gly Pro Tyr Gly Ser Gly Asp Ser
    370                 375                 380


Ala Pro Leu Asn Glu Ala Met Ala Val Leu Gln His His Asp Ala Val
385                 390                 395                 400


Ser Gly Thr Ser Arg Gln His Val Ala Asn Asp Tyr Ala Arg Gln Leu
                405                 410                 415


Ala Ala Gly Trp Gly Pro Cys Glu Val Leu Leu Ser Asn Ala Leu Ala
            420                 425                 430


Arg Leu Arg Gly Phe Lys Asp His Phe Thr Phe Cys Gln Gln Leu Asn
        435                 440                 445


Ile Ser Ile Cys Pro Leu Ser Gln Thr Ala Ala Arg Phe Gln Val Ile
    450                 455                 460


Val Tyr Asn Pro Leu Gly Arg Lys Val Asn Trp Met Val Arg Leu Pro
465                 470                 475                 480


Val Ser Glu Gly Val Phe Val Val Lys Asp Pro Asn Gly Arg Thr Val
                485                 490                 495
```

```
Pro Ser Asp Val Val Ile Phe Pro Ser Ser Asp Ser Gln Ala His Pro
            500                 505                 510

Pro Glu Leu Leu Phe Ser Ala Ser Leu Pro Ala Leu Gly Phe Ser Thr
        515                 520                 525

Tyr Ser Val Ala Gln Val Pro Arg Trp Lys Pro Gln Ala Arg Ala Pro
    530                 535                 540

Gln Pro Ile Pro Arg Arg Ser Trp Ser Pro Ala Leu Thr Ile Glu Asn
545                 550                 555                 560

Glu His Ile Arg Ala Thr Phe Asp Pro Asp Thr Gly Leu Leu Met Glu
                565                 570                 575

Ile Met Asn Met Asn Gln Gln Leu Leu Leu Pro Val Arg Gln Thr Phe
            580                 585                 590

Phe Trp Tyr Asn Ala Ser Ile Gly Asp Asn Glu Ser Asp Gln Ala Ser
        595                 600                 605

Gly Ala Tyr Ile Phe Arg Pro Asn Gln Gln Lys Pro Leu Pro Val Ser
    610                 615                 620

Arg Trp Ala Gln Ile His Leu Val Lys Thr Pro Leu Val Gln Glu Val
625                 630                 635                 640

His Gln Asn Phe Ser Ala Trp Cys Ser Gln Val Val Arg Leu Tyr Pro
                645                 650                 655

Gly Gln Arg His Leu Glu Leu Glu Trp Ser Val Gly Pro Ile Pro Val
            660                 665                 670

Gly Asp Thr Trp Gly Lys Glu Val Ile Ser Arg Phe Asp Thr Pro Leu
        675                 680                 685
```

```
Glu Thr Lys Gly Arg Phe Tyr Thr Asp Ser Asn Gly Arg Glu Ile Leu
    690                 695                 700

Glu Arg Arg Arg Asp Tyr Arg Pro Thr Trp Lys Leu Asn Gln Thr Glu
705                 710                 715                 720

Pro Val Ala Gly Asn Tyr Tyr Pro Val Asn Thr Arg Ile Tyr Ile Thr
                725                 730                 735

Asp Gly Asn Met Gln Leu Thr Val Leu Thr Asp Arg Ser Gln Gly Gly
            740                 745                 750

Ser Ser Leu Arg Asp Gly Ser Leu Glu Leu Met Val His Arg Arg Leu
        755                 760                 765

Leu Lys Asp Asp Gly Arg Gly Val Ser Glu Pro Leu Met Glu Asn Gly
    770                 775                 780

Ser Gly Ala Trp Val Arg Gly Arg His Leu Val Leu Leu Asp Thr Ala
785                 790                 795                 800

Gln Ala Ala Ala Ala Gly His Arg Leu Leu Ala Glu Gln Glu Val Leu
                805                 810                 815

Ala Pro Gln Val Val Leu Ala Pro Gly Gly Gly Ala Ala Tyr Asn Leu
            820                 825                 830

Gly Ala Pro Pro Arg Thr Gln Phe Ser Gly Leu Arg Arg Asp Leu Pro
        835                 840                 845

Pro Ser Val His Leu Leu Thr Leu Ala Ser Trp Gly Pro Glu Met Val
    850                 855                 860

Leu Leu Arg Leu Glu His Gln Phe Ala Val Gly Glu Asp Ser Gly Arg
865                 870                 875                 880
```

```
Asn Leu Ser Ala Pro Val Thr Leu Asn Leu Arg Asp Leu Phe Ser Thr
                885                 890                 895


Phe Thr Ile Thr Arg Leu Gln Glu Thr Thr Leu Val Ala Asn Gln Leu
            900                 905                 910


Arg Glu Ala Ala Ser Arg Leu Lys Trp Thr Thr Asn Thr Gly Pro Thr
        915                 920                 925


Pro His Gln Thr Pro Tyr Gln Leu Asp Pro Ala Asn Ile Thr Leu Glu
    930                 935                 940


Pro Met Glu Ile Arg Thr Phe Leu Ala Ser Val Gln Trp Lys Glu Val
945                 950                 955                 960


Asp Gly
```

<210> 5
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<212> PRT
<213> HOMO SAPIENS

<400> 5

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


Val Ser Leu Gly Arg Ala Asp Pro Glu Glu Glu Leu Ser Leu Thr Phe
            20                  25                  30


Ala Leu Arg Gln Gln Asn Val Glu Arg Leu Ser Glu Leu Val Gln Ala
        35                  40                  45


Val Ser Asp Pro Ser Ser Pro Gln Tyr Gly Lys Tyr Leu Thr Leu Glu
    50                  55                  60


Asn Val Ala Asp Leu Val Arg Pro Ser Pro Leu Thr Leu His Thr Val
```

```
65                  70                  75                  80

Gln Lys Trp Leu Leu Ala Ala Gly Ala Gln Lys Cys His Ser Val Ile
                85                  90                  95

Thr Gln Asp Phe Leu Thr Cys Trp Leu Ser Ile Arg Gln Ala Glu Leu
            100                 105                 110

Leu Leu Pro Gly Ala Glu Phe His His Tyr Val Gly Gly Pro Thr Glu
        115                 120                 125

Thr His Val Val Arg Ser Pro His Pro Tyr Gln Leu Pro Gln Ala Leu
    130                 135                 140

Ala Pro His Val Asp Phe Val Gly Gly Leu His Arg Phe Pro Pro Thr
145                 150                 155                 160

Ser Ser Leu Arg Gln Arg Pro Glu Pro Gln Val Thr Gly Thr Val Gly
                165                 170                 175

Leu His Leu Gly Val Thr Pro Ser Val Ile Arg Lys Arg Tyr Asn Leu
            180                 185                 190

Thr Ser Gln Asp Val Gly Ser Gly Thr Ser Asn Asn Ser Gln Ala Cys
        195                 200                 205

Ala Gln Phe Leu Glu Gln Tyr Phe His Asp Ser Asp Leu Ala Gln Phe
    210                 215                 220

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

Val Val Gly Gln Gln Gly Arg Gly Arg Ala Gly Ile Glu Ala Ser Leu
                245                 250                 255

Asp Val Gln Tyr Leu Met Ser Ala Gly Ala Asn Ile Ser Thr Trp Val
```

```
            260                 265                 270

Tyr Ser Ser Pro Gly Arg His Glu Gly Gln Glu Pro Phe Leu Gln Trp
        275                 280                 285

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

Ser Tyr Gly Asp Asp Glu Asp Ser Leu Ser Ser Ala Tyr Ile Gln Arg
305                 310                 315                 320

Val Asn Thr Glu Leu Met Lys Ala Ala Ala Arg Gly Leu Thr Leu Leu
                325                 330                 335

Phe Ala Ser Gly Asp Ser Gly Ala Gly Cys Trp Ser Val Ser Gly Arg
            340                 345                 350

His Gln Phe Arg Pro Thr Phe Pro Ala Ser Ser Pro Tyr Val Thr Thr
        355                 360                 365

Val Gly Gly Thr Ser Phe Gln Glu Pro Phe Leu Ile Thr Asn Glu Ile
    370                 375                 380

Val Asp Tyr Ile Ser Gly Gly Gly Phe Ser Asn Val Phe Pro Arg Pro
385                 390                 395                 400

Ser Tyr Gln Glu Glu Ala Val Thr Lys Phe Leu Ser Ser Ser Pro His
                405                 410                 415

Leu Pro Pro Ser Ser Tyr Phe Asn Ala Ser Gly Arg Ala Tyr Pro Asp
            420                 425                 430

Val Ala Ala Leu Ser Asp Gly Tyr Trp Val Val Ser Asn Arg Val Pro
        435                 440                 445

Ile Pro Trp Val Ser Gly Thr Ser Ala Ser Thr Pro Val Phe Gly Gly
```

```
    450                 455                 460

Ile Leu Ser Leu Ile Asn Glu His Arg Ile Leu Ser Gly Arg Pro Pro
465                 470                 475                 480

Leu Gly Phe Leu Asn Pro Arg Leu Tyr Gln Gln His Gly Ala Gly Leu
                485                 490                 495

Phe Asp Val Thr Arg Gly Cys His Glu Ser Cys Leu Asp Glu Glu Val
            500                 505                 510

Glu Gly Gln Gly Phe Cys Ser Gly Pro Gly Trp Asp Pro Val Thr Gly
        515                 520                 525

Trp Gly Thr Pro Asn Phe Pro Ala Leu Leu Lys Thr Leu Leu Asn Pro
    530                 535                 540

<210>  6
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<212>  PRT
<213>  HOMO SAPIENS

<400>  6

Gln Pro Leu Pro Gln Val Pro Glu Arg Pro Phe Ser Val Leu Trp Asn
1               5                   10                  15

Val Pro Ser Ala His Cys Glu Ala Arg Phe Gly Val His Leu Pro Leu
            20                  25                  30

Asn Ala Leu Gly Ile Ile Ala Asn Arg Gly Gln His Phe His Gly Gln
        35                  40                  45

Asn Met Thr Ile Phe Tyr Lys Asn Gln Leu Gly Leu Tyr Pro Tyr Phe
    50                  55                  60

Gly Pro Arg Gly Thr Ala His Asn Gly Gly Ile Pro Gln Ala Leu Pro
65                  70                  75                  80
```

```
Leu Asp Arg His Leu Ala Leu Ala Ala Tyr Gln Ile His His Ser Leu
                85                  90                  95

Arg Pro Gly Phe Ala Gly Pro Ala Val Leu Asp Trp Glu Glu Trp Cys
            100                 105                 110

Pro Leu Trp Ala Gly Asn Trp Gly Arg Arg Arg Ala Tyr Gln Ala Ala
        115                 120                 125

Ser Trp Ala Trp Ala Gln Gln Val Phe Pro Asp Leu Asp Pro Gln Glu
    130                 135                 140

Gln Leu Tyr Lys Ala Tyr Thr Gly Phe Glu Gln Ala Ala Arg Ala Leu
145                 150                 155                 160

Met Glu Asp Thr Leu Arg Val Ala Gln Ala Leu Arg Pro His Gly Leu
                165                 170                 175

Trp Gly Phe Tyr His Tyr Pro Ala Cys Gly Asn Gly Trp His Ser Met
            180                 185                 190

Ala Ser Asn Tyr Thr Gly Arg Cys His Ala Ala Thr Leu Ala Arg Asn
        195                 200                 205

Thr Gln Leu His Trp Leu Trp Ala Ala Ser Ser Ala Leu Phe Pro Ser
    210                 215                 220

Ile Tyr Leu Pro Pro Arg Leu Pro Pro Ala His His Gln Ala Phe Val
225                 230                 235                 240

Arg His Arg Leu Glu Glu Ala Phe Arg Val Ala Leu Val Gly His Arg
                245                 250                 255

His Pro Leu Pro Val Leu Ala Tyr Val Arg Leu Thr His Arg Arg Ser
            260                 265                 270
```

```
Gly Arg Phe Leu Ser Gln Asp Asp Leu Val Gln Ser Ile Gly Val Ser
        275                 280                 285

Ala Ala Leu Gly Ala Ala Gly Val Val Leu Trp Gly Asp Leu Ser Leu
    290                 295                 300

Ser Ser Ser Glu Glu Glu Cys Trp His Leu His Asp Tyr Leu Val Asp
305                 310                 315                 320

Thr Leu Gly Pro Tyr Val Ile Asn Val Thr Arg Ala Ala Met Ala Cys
                325                 330                 335

Ser His Gln Arg Cys His Gly His Gly Arg Cys Ala Arg Arg Asp Pro
            340                 345                 350

Gly Gln Met Glu Ala Phe Leu His Leu Trp Pro Asp Gly Ser Leu Gly
        355                 360                 365

Asp Trp Lys Ser Phe Ser Cys His Cys Tyr Trp Gly Trp Ala Gly Pro
    370                 375                 380

Thr Cys Gln Glu Pro Arg Pro Gly Pro Lys Glu Ala Val
385                 390                 395
```

<210> 7
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<212> PRT
<213> HOMO SAPIENS

<400> 7

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Val Pro Lys Phe Asp Gln Asn Leu Asp Thr Lys Trp Tyr Gln Trp Lys
1               5                   10                  15

Ala Thr His Arg Arg Leu Tyr Gly Ala Asn Glu Glu Gly Trp Arg Arg
            20                  25                  30
```

```
Ala Val Trp Glu Lys Asn Met Lys Met Ile Glu Leu His Asn Gly Glu
        35                  40                  45

Tyr Ser Gln Gly Lys His Gly Phe Thr Met Ala Met Asn Ala Phe Gly
    50                  55                  60

Asp Met Thr Asn Glu Glu Phe Arg Gln Met Met Gly Cys Phe Arg Asn
65                  70                  75                  80

Gln Lys Phe Arg Lys Gly Lys Val Phe Arg Glu Pro Leu Phe Leu Asp
                85                  90                  95

Leu Pro Lys Ser Val Asp Trp Arg Lys Lys Gly Tyr Val Thr Pro Val
            100                 105                 110

Lys Asn Gln Lys Gln Cys Gly Ser Cys Trp Ala Phe Ser Ala Thr Gly
        115                 120                 125

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

Ser Glu Gln Asn Leu Val Asp Cys Ser Arg Pro Gln Gly Asn Gln Gly
145                 150                 155                 160

Cys Asn Gly Gly Phe Met Ala Arg Ala Phe Gln Tyr Val Lys Glu Asn
                165                 170                 175

Gly Gly Leu Asp Ser Glu Glu Ser Tyr Pro Tyr Val Ala Val Asp Glu
            180                 185                 190

Ile Cys Lys Tyr Arg Pro Glu Asn Ser Val Ala Asn Asp Thr Gly Phe
        195                 200                 205

Thr Val Val Ala Pro Gly Lys Glu Lys Ala Leu Met Lys Ala Val Ala
    210                 215                 220
```

```
Thr Val Gly Pro Ile Ser Val Ala Met Asp Ala Gly His Ser Ser Phe
225                 230                 235                 240


Gln Phe Tyr Lys Ser Gly Ile Tyr Phe Glu Pro Asp Cys Ser Ser Lys
                245                 250                 255


Asn Leu Asp His Gly Val Leu Val Val Gly Tyr Gly Phe Glu Gly Ala
            260                 265                 270


Asn Ser Asn Asn Ser Lys Tyr Trp Leu Val Lys Asn Ser Trp Gly Pro
        275                 280                 285


Glu Trp Gly Ser Asn Gly Tyr Val Lys Ile Ala Lys Asp Lys Asn Asn
    290                 295                 300


His Cys Gly Ile Ala Thr Ala Ala Ser Tyr Pro Asn Val
305                 310                 315


<210>  8
<211>  312
<212>  PRT
<213>  HOMO SAPIENS

<400>  8

Ile Pro Ser Arg Arg His Trp Pro Val Pro Tyr Lys Arg Phe Asp Phe
1               5                   10                  15


Arg Pro Lys Pro Asp Pro Tyr Cys Gln Ala Lys Tyr Thr Phe Cys Pro
            20                  25                  30


Thr Gly Ser Pro Ile Pro Val Met Glu Gly Asp Asp Asp Ile Glu Val
        35                  40                  45


Phe Arg Leu Gln Ala Pro Val Trp Glu Phe Lys Tyr Gly Asp Leu Leu
    50                  55                  60
```

```
Gly His Leu Lys Ile Met His Asp Ala Ile Gly Phe Arg Ser Thr Leu
65                  70                  75                  80

Thr Gly Lys Asn Tyr Thr Met Glu Trp Tyr Glu Leu Phe Gln Leu Gly
                85                  90                  95

Asn Cys Thr Phe Pro His Leu Arg Pro Glu Met Asp Ala Pro Phe Trp
            100                 105                 110

Cys Asn Gln Gly Ala Ala Cys Phe Phe Glu Gly Ile Asp Asp Val His
        115                 120                 125

Trp Lys Glu Asn Gly Thr Leu Val Gln Val Ala Thr Ile Ser Gly Asn
    130                 135                 140

Met Phe Asn Gln Met Ala Lys Trp Val Lys Gln Asp Asn Glu Thr Gly
145                 150                 155                 160

Ile Tyr Tyr Glu Thr Trp Asn Val Lys Ala Ser Pro Glu Lys Gly Ala
                165                 170                 175

Glu Thr Trp Phe Asp Ser Tyr Asp Cys Ser Lys Phe Val Leu Arg Thr
            180                 185                 190

Phe Asn Lys Leu Ala Glu Phe Gly Ala Glu Phe Lys Asn Ile Glu Thr
        195                 200                 205

Asn Tyr Thr Arg Ile Phe Leu Tyr Ser Gly Glu Pro Thr Tyr Leu Gly
    210                 215                 220

Asn Glu Thr Ser Val Phe Gly Pro Thr Gly Asn Lys Thr Leu Gly Leu
225                 230                 235                 240

Ala Ile Lys Arg Phe Tyr Tyr Pro Phe Lys Pro His Leu Pro Thr Lys
                245                 250                 255
```

```
Glu Phe Leu Leu Ser Leu Leu Gln Ile Phe Asp Ala Val Ile Val His
            260                 265                 270


Lys Gln Phe Tyr Leu Phe Tyr Asn Phe Glu Tyr Trp Phe Leu Pro Met
        275                 280                 285


Lys Phe Pro Phe Ile Lys Ile Thr Tyr Glu Glu Ile Pro Leu Pro Ile
    290                 295                 300


Arg Asn Lys Thr Leu Ser Gly Leu
305                 310


<210>  9
<211>  497
<212>  PRT
<213>  HOMO SAPIENS

<400>  9

Ala Arg Pro Cys Ile Pro Lys Ser Phe Gly Tyr Ser Ser Val Val Cys
1               5                   10                  15


Val Cys Asn Ala Thr Tyr Cys Asp Ser Phe Asp Pro Pro Thr Phe Pro
            20                  25                  30


Ala Leu Gly Thr Phe Ser Arg Tyr Glu Ser Thr Arg Ser Gly Arg Arg
        35                  40                  45


Met Glu Leu Ser Met Gly Pro Ile Gln Ala Asn His Thr Gly Thr Gly
    50                  55                  60


Leu Leu Leu Thr Leu Gln Pro Glu Gln Lys Phe Gln Lys Val Lys Gly
65                  70                  75                  80


Phe Gly Gly Ala Met Thr Asp Ala Ala Ala Leu Asn Ile Leu Ala Leu
                85                  90                  95


Ser Pro Pro Ala Gln Asn Leu Leu Leu Lys Ser Tyr Phe Ser Glu Glu
```

```
            100                 105                 110

Gly Ile Gly Tyr Asn Ile Ile Arg Val Pro Met Ala Ser Cys Asp Phe
        115                 120                 125

Ser Ile Arg Thr Tyr Thr Tyr Ala Asp Thr Pro Asp Asp Phe Gln Leu
    130                 135                 140

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

Ile His Arg Ala Leu Gln Leu Ala Gln Arg Pro Val Ser Leu Leu Ala
                165                 170                 175

Ser Pro Trp Thr Ser Pro Thr Trp Leu Lys Thr Asn Gly Ala Val Asn
            180                 185                 190

Gly Lys Gly Ser Leu Lys Gly Gln Pro Gly Asp Ile Tyr His Gln Thr
        195                 200                 205

Trp Ala Arg Tyr Phe Val Lys Phe Leu Asp Ala Tyr Ala Glu His Lys
    210                 215                 220

Leu Gln Phe Trp Ala Val Thr Ala Glu Asn Glu Pro Ser Ala Gly Leu
225                 230                 235                 240

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

Arg Asp Phe Ile Ala Arg Asp Leu Gly Pro Thr Leu Ala Asn Ser Thr
            260                 265                 270

His His Asn Val Arg Leu Leu Met Leu Asp Asp Gln Arg Leu Leu Leu
        275                 280                 285

Pro His Trp Ala Lys Val Val Leu Thr Asp Pro Glu Ala Ala Lys Tyr
```

```
    290                 295                 300

Val His Gly Ile Ala Val His Trp Tyr Leu Asp Phe Leu Ala Pro Ala
305                 310                 315                 320

Lys Ala Thr Leu Gly Glu Thr His Arg Leu Phe Pro Asn Thr Met Leu
                325                 330                 335

Phe Ala Ser Glu Ala Cys Val Gly Ser Lys Phe Trp Glu Gln Ser Val
            340                 345                 350

Arg Leu Gly Ser Trp Asp Arg Gly Met Gln Tyr Ser His Ser Ile Ile
        355                 360                 365

Thr Asn Leu Leu Tyr His Val Val Gly Trp Thr Asp Trp Asn Leu Ala
    370                 375                 380

Leu Asn Pro Glu Gly Gly Pro Asn Trp Val Arg Asn Phe Val Asp Ser
385                 390                 395                 400

Pro Ile Ile Val Asp Ile Thr Lys Asp Thr Phe Tyr Lys Gln Pro Met
                405                 410                 415

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

Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala
        435                 440                 445

Leu Met His Pro Asp Gly Ser Ala Val Val Val Val Leu Asn Arg Ser
    450                 455                 460

Ser Lys Asp Val Pro Leu Thr Ile Lys Asp Pro Ala Val Gly Phe Leu
465                 470                 475                 480

Glu Thr Ile Ser Pro Gly Tyr Ser Ile His Thr Tyr Leu Trp Arg Arg
```

485 490 495

Gln

<210> 10
<211> 435
<212> PRT
<213> HOMO SAPIENS

<400> 10

Gln Pro Pro Arg Arg Tyr Thr Pro Asp Trp Pro Ser Leu Asp Ser Arg
1 5 10 15

Pro Leu Pro Ala Trp Phe Asp Glu Ala Lys Phe Gly Val Phe Ile His
20 25 30

Trp Gly Val Phe Ser Val Pro Ala Trp Gly Ser Glu Trp Phe Trp Trp
35 40 45

His Trp Gln Gly Glu Gly Arg Pro Gln Tyr Gln Arg Phe Met Arg Asp
50 55 60

Asn Tyr Pro Pro Gly Phe Ser Tyr Ala Asp Phe Gly Pro Gln Phe Thr
65 70 75 80

Ala Arg Phe Phe His Pro Glu Glu Trp Ala Asp Leu Phe Gln Ala Ala
85 90 95

Gly Ala Lys Tyr Val Val Leu Thr Thr Lys His His Glu Gly Phe Thr
100 105 110

Asn Trp Pro Ser Pro Val Ser Trp Asn Trp Asn Ser Lys Asp Val Gly
115 120 125

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

```
Asn Ile Arg Tyr Gly Leu Tyr His Ser Leu Leu Glu Trp Phe His Pro
145                 150                 155                 160

Leu Tyr Leu Leu Asp Lys Lys Asn Gly Phe Lys Thr Gln His Phe Val
                165                 170                 175

Ser Ala Lys Thr Met Pro Glu Leu Tyr Asp Leu Val Asn Ser Tyr Lys
            180                 185                 190

Pro Asp Leu Ile Trp Ser Asp Gly Glu Trp Glu Cys Pro Asp Thr Tyr
        195                 200                 205

Trp Asn Ser Thr Asn Phe Leu Ser Trp Leu Tyr Asn Asp Ser Pro Val
    210                 215                 220

Lys Asp Glu Val Val Val Asn Asp Arg Trp Gly Gln Asn Cys Ser Cys
225                 230                 235                 240

His His Gly Gly Tyr Tyr Asn Cys Glu Asp Lys Phe Lys Pro Gln Ser
                245                 250                 255

Leu Pro Asp His Lys Trp Glu Met Cys Thr Ser Ile Asp Lys Phe Ser
            260                 265                 270

Trp Gly Tyr Arg Arg Asp Met Ala Leu Ser Asp Val Thr Glu Glu Ser
        275                 280                 285

Glu Ile Ile Ser Glu Leu Val Gln Thr Val Ser Leu Gly Gly Asn Tyr
    290                 295                 300

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

Gln Glu Arg Leu Leu Ala Val Gly Lys Trp Leu Ser Ile Asn Gly Glu
                325                 330                 335
```

```
Ala Ile Tyr Ala Ser Lys Pro Trp Arg Val Gln Trp Glu Lys Asn Thr
            340                 345                 350

Thr Ser Val Trp Tyr Thr Ser Lys Gly Ser Ala Val Tyr Ala Ile Phe
        355                 360                 365

Leu His Trp Pro Glu Asn Gly Val Leu Asn Leu Glu Ser Pro Ile Thr
    370                 375                 380

Thr Ser Thr Thr Lys Ile Thr Met Leu Gly Ile Gln Gly Asp Leu Lys
385                 390                 395                 400

Trp Ser Thr Asp Pro Asp Lys Gly Leu Phe Ile Ser Leu Pro Gln Leu
                405                 410                 415

Pro Pro Ser Ala Val Pro Ala Glu Phe Ala Trp Thr Ile Lys Leu Thr
            420                 425                 430

Gly Val Lys
        435
```

<210> 11
<211> 697
<212> PRT
<213> HOMO SAPIENS

<400> 11

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

Ser Met Glu Glu Ala Lys Gln Leu Val Asp Lys Ala Tyr Lys Glu Arg
            20                  25                  30

Arg Glu Ser Ile Lys Gln Arg Leu Arg Ser Gly Ser Ala Ser Pro Met
        35                  40                  45
```

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

Val Arg Ala Ala Asp Tyr Leu His Val Ala Leu Asp Leu Leu Glu Arg
65                  70                  75                  80

Lys Leu Arg Ser Leu Trp Arg Arg Pro Phe Asn Val Thr Asp Val Leu
                85                  90                  95

Thr Pro Ala Gln Leu Asn Val Leu Ser Lys Ser Ser Gly Cys Ala Tyr
            100                 105                 110

Gln Asp Val Gly Val Thr Cys Pro Glu Gln Asp Lys Tyr Arg Thr Ile
        115                 120                 125

Thr Gly Met Cys Asn Asn Arg Arg Ser Pro Thr Leu Gly Ala Ser Asn
    130                 135                 140

Arg Ala Phe Val Arg Trp Leu Pro Ala Glu Tyr Glu Asp Gly Phe Ser
145                 150                 155                 160

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

Ala Leu Ala Arg Ala Val Ser Asn Glu Ile Val Arg Phe Pro Thr Asp
            180                 185                 190

Gln Leu Thr Pro Asp Gln Glu Arg Ser Leu Met Phe Met Gln Trp Gly
        195                 200                 205

Gln Leu Leu Asp His Asp Leu Asp Phe Thr Pro Glu Pro Ala Ala Arg
    210                 215                 220

Ala Ser Phe Val Thr Gly Val Asn Cys Glu Thr Ser Cys Val Gln Gln
225                 230                 235                 240
```

```
Pro Pro Cys Phe Pro Leu Lys Ile Pro Pro Asn Asp Pro Arg Ile Lys
                245                 250                 255

Asn Gln Ala Asp Cys Ile Pro Phe Phe Arg Ser Cys Pro Ala Cys Pro
            260                 265                 270

Gly Ser Asn Ile Thr Ile Arg Asn Gln Ile Asn Ala Leu Thr Ser Phe
        275                 280                 285

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

Leu Arg Asn Met Ser Asn Gln Leu Gly Leu Leu Ala Val Asn Gln Arg
305                 310                 315                 320

Phe Gln Asp Asn Gly Arg Ala Leu Leu Pro Phe Asp Asn Leu His Asp
                325                 330                 335

Asp Pro Cys Leu Leu Thr Asn Arg Ser Ala Arg Ile Pro Cys Phe Leu
            340                 345                 350

Ala Gly Asp Thr Arg Ser Ser Glu Met Pro Glu Leu Thr Ser Met His
        355                 360                 365

Thr Leu Leu Leu Arg Glu His Asn Arg Leu Ala Thr Glu Leu Lys Ser
    370                 375                 380

Leu Asn Pro Arg Trp Asp Gly Glu Arg Leu Tyr Gln Glu Ala Arg Lys
385                 390                 395                 400

Ile Val Gly Ala Met Val Gln Ile Ile Thr Tyr Arg Asp Tyr Leu Pro
                405                 410                 415

Leu Val Leu Gly Pro Thr Ala Met Arg Lys Tyr Leu Pro Thr Tyr Arg
            420                 425                 430
```

```
Ser Tyr Asn Asp Ser Val Asp Pro Arg Ile Ala Asn Val Phe Thr Asn
        435                 440                 445

Ala Phe Arg Tyr Gly His Thr Leu Ile Gln Pro Phe Met Phe Arg Leu
    450                 455                 460

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

Arg Val Phe Phe Ala Ser Trp Arg Val Val Leu Glu Gly Gly Ile Asp
                485                 490                 495

Pro Ile Leu Arg Gly Leu Met Ala Thr Pro Ala Lys Leu Asn Arg Gln
            500                 505                 510

Asn Gln Ile Ala Val Asp Glu Ile Arg Glu Arg Leu Phe Glu Gln Val
        515                 520                 525

Met Arg Ile Gly Leu Asp Leu Pro Ala Leu Asn Met Gln Arg Ser Arg
    530                 535                 540

Asp His Gly Leu Pro Gly Tyr Asn Ala Trp Arg Arg Phe Cys Gly Leu
545                 550                 555                 560

Pro Gln Pro Glu Thr Val Gly Gln Leu Gly Thr Val Leu Arg Asn Leu
                565                 570                 575

Lys Leu Ala Arg Lys Leu Met Glu Gln Tyr Gly Thr Pro Asn Asn Ile
            580                 585                 590

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

Val Gly Pro Leu Leu Ala Cys Ile Ile Gly Thr Gln Phe Arg Lys Leu
    610                 615                 620
```

```
Arg Asp Gly Asp Arg Phe Trp Trp Glu Asn Glu Gly Val Phe Ser Met
625                 630                 635                 640


Gln Gln Arg Gln Ala Leu Ala Gln Ile Ser Leu Pro Arg Ile Ile Cys
                645                 650                 655


Asp Asn Thr Gly Ile Thr Thr Val Ser Lys Asn Asn Ile Phe Met Ser
            660                 665                 670


Asn Ser Tyr Pro Arg Asp Phe Val Asn Cys Ser Thr Leu Pro Ala Leu
        675                 680                 685


Asn Leu Ala Ser Trp Arg Glu Ala Ser
    690                 695


<210>  12
<211>  398
<212>  PRT
<213>  HOMO SAPIENS

<400>  12

Leu Asp Asn Gly Leu Ala Arg Thr Pro Thr Met Gly Trp Leu His Trp
1               5                   10                  15


Glu Arg Phe Met Cys Asn Leu Asp Cys Gln Glu Glu Pro Asp Ser Cys
            20                  25                  30


Ile Ser Glu Lys Leu Phe Met Glu Met Ala Glu Leu Met Val Ser Glu
        35                  40                  45


Gly Trp Lys Asp Ala Gly Tyr Glu Tyr Leu Cys Ile Asp Asp Cys Trp
    50                  55                  60


Met Ala Pro Gln Arg Asp Ser Glu Gly Arg Leu Gln Ala Asp Pro Gln
65                  70                  75                  80
```

```
Arg Phe Pro His Gly Ile Arg Gln Leu Ala Asn Tyr Val His Ser Lys
                85                  90                  95

Gly Leu Lys Leu Gly Ile Tyr Ala Asp Val Gly Asn Lys Thr Cys Ala
            100                 105                 110

Gly Phe Pro Gly Ser Phe Gly Tyr Tyr Asp Ile Asp Ala Gln Thr Phe
        115                 120                 125

Ala Asp Trp Gly Val Asp Leu Leu Lys Phe Asp Gly Cys Tyr Cys Asp
    130                 135                 140

Ser Leu Glu Asn Leu Ala Asp Gly Tyr Lys His Met Ser Leu Ala Leu
145                 150                 155                 160

Asn Arg Thr Gly Arg Ser Ile Val Tyr Ser Cys Glu Trp Pro Leu Tyr
                165                 170                 175

Met Trp Pro Phe Gln Lys Pro Asn Tyr Thr Glu Ile Arg Gln Tyr Cys
            180                 185                 190

Asn His Trp Arg Asn Phe Ala Asp Ile Asp Asp Ser Trp Lys Ser Ile
        195                 200                 205

Lys Ser Ile Leu Asp Trp Thr Ser Phe Asn Gln Glu Arg Ile Val Asp
    210                 215                 220

Val Ala Gly Pro Gly Gly Trp Asn Asp Pro Asp Met Leu Val Ile Gly
225                 230                 235                 240

Asn Phe Gly Leu Ser Trp Asn Gln Gln Val Thr Gln Met Ala Leu Trp
                245                 250                 255

Ala Ile Met Ala Ala Pro Leu Phe Met Ser Asn Asp Leu Arg His Ile
            260                 265                 270
```

```
Ser Pro Gln Ala Lys Ala Leu Leu Gln Asp Lys Asp Val Ile Ala Ile
        275                 280                 285


Asn Gln Asp Pro Leu Gly Lys Gln Gly Tyr Gln Leu Arg Gln Gly Asp
    290                 295                 300


Asn Phe Glu Val Trp Glu Arg Pro Leu Ser Gly Leu Ala Trp Ala Val
305                 310                 315                 320


Ala Met Ile Asn Arg Gln Glu Ile Gly Gly Pro Arg Ser Tyr Thr Ile
                325                 330                 335


Ala Val Ala Ser Leu Gly Lys Gly Val Ala Cys Asn Pro Ala Cys Phe
            340                 345                 350


Ile Thr Gln Leu Leu Pro Val Lys Arg Lys Leu Gly Phe Tyr Glu Trp
        355                 360                 365


Thr Ser Arg Leu Arg Ser His Ile Asn Pro Thr Gly Thr Val Leu Leu
    370                 375                 380


Gln Leu Glu Asn Thr Met Gln Met Ser Leu Lys Asp Leu Leu
385                 390                 395


<210>  13
<211>  507
<212>  PRT
<213>  HOMO SAPIENS

<400>  13

Leu Trp Pro Trp Pro Gln Asn Phe Gln Thr Ser Asp Gln Arg Tyr Val
1               5                   10                  15


Leu Tyr Pro Asn Asn Phe Gln Phe Gln Tyr Asp Val Ser Ser Ala Ala
            20                  25                  30


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

```
        35                  40                  45

Leu Leu Phe Gly Ser Gly Ser Trp Pro Arg Pro Tyr Leu Thr Gly Lys
    50                  55                  60

Arg His Thr Leu Glu Lys Asn Val Leu Val Val Ser Val Val Thr Pro
65                  70                  75                  80

Gly Cys Asn Gln Leu Pro Thr Leu Glu Ser Val Glu Asn Tyr Thr Leu
                85                  90                  95

Thr Ile Asn Asp Asp Gln Cys Leu Leu Leu Ser Glu Thr Val Trp Gly
            100                 105                 110

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

Glu Gly Thr Phe Phe Ile Asn Lys Thr Glu Ile Glu Asp Phe Pro Arg
    130                 135                 140

Phe Pro His Arg Gly Leu Leu Leu Asp Thr Ser Arg His Tyr Leu Pro
145                 150                 155                 160

Leu Ser Ser Ile Leu Asp Thr Leu Asp Val Met Ala Tyr Asn Lys Leu
                165                 170                 175

Asn Val Phe His Trp His Leu Val Asp Asp Pro Ser Phe Pro Tyr Glu
            180                 185                 190

Ser Phe Thr Phe Pro Glu Leu Met Arg Lys Gly Ser Tyr Asn Pro Val
        195                 200                 205

Thr His Ile Tyr Thr Ala Gln Asp Val Lys Glu Val Ile Glu Tyr Ala
    210                 215                 220

Arg Leu Arg Gly Ile Arg Val Leu Ala Glu Phe Asp Thr Pro Gly His
```

225 230 235 240

Thr Leu Ser Trp Gly Pro Gly Ile Pro Gly Leu Leu Thr Pro Cys Tyr
245 250 255

Ser Gly Ser Glu Pro Ser Gly Thr Phe Gly Pro Val Asn Pro Ser Leu
260 265 270

Asn Asn Thr Tyr Glu Phe Met Ser Thr Phe Phe Leu Glu Val Ser Ser
275 280 285

Val Phe Pro Asp Phe Tyr Leu His Leu Gly Gly Asp Glu Val Asp Phe
290 295 300

Thr Cys Trp Lys Ser Asn Pro Glu Ile Gln Asp Phe Met Arg Lys Lys
305 310 315 320

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

Leu Leu Asp Ile Val Ser Ser Tyr Gly Lys Gly Tyr Val Val Trp Gln
340 345 350

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

Val Trp Arg Glu Asp Ile Pro Val Asn Tyr Met Lys Glu Leu Glu Leu
370 375 380

Val Thr Lys Ala Gly Phe Arg Ala Leu Leu Ser Ala Pro Trp Tyr Leu
385 390 395 400

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

Pro Leu Ala Phe Glu Gly Thr Pro Glu Gln Lys Ala Leu Val Ile Gly

420 425 430

Gly Glu Ala Cys Met Trp Gly Glu Tyr Val Asp Asn Thr Asn Leu Val
435 440 445

Pro Arg Leu Trp Pro Arg Ala Gly Ala Val Ala Glu Arg Leu Trp Ser
450 455 460

Asn Lys Leu Thr Ser Asp Leu Thr Phe Ala Tyr Glu Arg Leu Ser His
465 470 475 480

Phe Arg Cys Glu Leu Leu Arg Arg Gly Val Gln Ala Gln Pro Leu Asn
485 490 495

Val Gly Phe Cys Glu Gln Glu Phe Glu Gln Thr
500 505

<210> 14
<211> 394
<212> PRT
<213> HOMO SAPIENS

<400> 14

Ser Ala Leu Val Arg Ile Pro Leu His Lys Phe Thr Ser Ile Arg Arg
1 5 10 15

Thr Met Ser Glu Val Gly Gly Ser Val Glu Asp Leu Ile Ala Lys Gly
20 25 30

Pro Val Ser Lys Tyr Ser Gln Ala Val Pro Ala Val Thr Glu Gly Pro
35 40 45

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

Ile Gly Ile Gly Thr Pro Pro Gln Cys Phe Thr Val Val Phe Asp Thr
65 70 75 80

```
Gly Ser Ser Asn Leu Trp Val Pro Ser Ile His Cys Lys Leu Leu Asp
                85                  90                  95

Ile Ala Cys Trp Ile His His Lys Tyr Asn Ser Asp Lys Ser Ser Thr
            100                 105                 110

Tyr Val Lys Asn Gly Thr Ser Phe Asp Ile His Tyr Gly Ser Gly Ser
        115                 120                 125

Leu Ser Gly Tyr Leu Ser Gln Asp Thr Val Ser Val Pro Cys Gln Ser
    130                 135                 140

Ala Ser Ser Ala Ser Ala Leu Gly Gly Val Lys Val Glu Arg Gln Val
145                 150                 155                 160

Phe Gly Glu Ala Thr Lys Gln Pro Gly Ile Thr Phe Ile Ala Ala Lys
                165                 170                 175

Phe Asp Gly Ile Leu Gly Met Ala Tyr Pro Arg Ile Ser Val Asn Asn
            180                 185                 190

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

Asn Ile Phe Ser Phe Tyr Leu Ser Arg Asp Pro Asp Ala Gln Pro Gly
    210                 215                 220

Gly Glu Leu Met Leu Gly Gly Thr Asp Ser Lys Tyr Tyr Lys Gly Ser
225                 230                 235                 240

Leu Ser Tyr Leu Asn Val Thr Arg Lys Ala Tyr Trp Gln Val His Leu
                245                 250                 255

Asp Gln Val Glu Val Ala Ser Gly Leu Thr Leu Cys Lys Glu Gly Cys
            260                 265                 270
```

```
Glu Ala Ile Val Asp Thr Gly Thr Ser Leu Met Val Gly Pro Val Asp
        275                 280                 285

Glu Val Arg Glu Leu Gln Lys Ala Ile Gly Ala Val Pro Leu Ile Gln
    290                 295                 300

Gly Glu Tyr Met Ile Pro Cys Glu Lys Val Ser Thr Leu Pro Ala Ile
305                 310                 315                 320

Thr Leu Lys Leu Gly Gly Lys Gly Tyr Lys Leu Ser Pro Glu Asp Tyr
                325                 330                 335

Thr Leu Lys Val Ser Gln Ala Gly Lys Thr Leu Cys Leu Ser Gly Phe
            340                 345                 350

Met Gly Met Asp Ile Pro Pro Pro Ser Gly Pro Leu Trp Ile Leu Gly
        355                 360                 365

Asp Val Phe Ile Gly Arg Tyr Tyr Thr Val Phe Asp Arg Asp Asn Asn
    370                 375                 380

Arg Val Gly Phe Ala Glu Ala Ala Arg Leu
385                 390
```

<210> 15
<211> 508
<212> PRT
<213> HOMO SAPIENS

<400> 15

```
Gly Pro Val Leu Gly Leu Lys Glu Cys Thr Arg Gly Ser Ala Val Trp
1               5                   10                  15

Cys Gln Asn Val Lys Thr Ala Ser Asp Cys Gly Ala Val Lys His Cys
            20                  25                  30
```

```
Leu Gln Thr Val Trp Asn Lys Pro Thr Val Lys Ser Leu Pro Cys Asp
        35                  40                  45

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

Ala Thr Glu Glu Glu Ile Leu Val Tyr Leu Glu Lys Thr Cys Asp Trp
65                  70                  75                  80

Leu Pro Lys Pro Asn Met Ser Ala Ser Cys Lys Glu Ile Val Asp Ser
                85                  90                  95

Tyr Leu Pro Val Ile Leu Asp Ile Ile Lys Gly Glu Met Ser Arg Pro
            100                 105                 110

Gly Glu Val Cys Ser Ala Leu Asn Leu Cys Glu Ser Leu Gln Lys His
        115                 120                 125

Leu Ala Glu Leu Asn His Gln Lys Gln Leu Glu Ser Asn Lys Ile Pro
    130                 135                 140

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

Leu Leu Leu Tyr Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys
                165                 170                 175

Asp Asn Gly Asp Val Cys Gln Asp Cys Ile Gln Met Val Thr Asp Ile
            180                 185                 190

Gln Thr Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu
        195                 200                 205

His Val Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile
    210                 215                 220
```

```
Cys Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met
225                 230                 235                 240


Met His Met Gln Pro Lys Glu Ile Cys Ala Leu Val Gly Phe Cys Asp
                245                 250                 255


Glu Val Lys Glu Met Pro Met Gln Thr Leu Val Pro Ala Lys Val Ala
            260                 265                 270


Ser Lys Asn Val Ile Pro Ala Leu Glu Leu Val Glu Pro Ile Lys Lys
        275                 280                 285


His Glu Val Pro Ala Lys Ser Asp Val Tyr Cys Glu Val Cys Glu Phe
    290                 295                 300


Leu Val Lys Glu Val Thr Lys Leu Ile Asp Asn Asn Lys Thr Glu Lys
305                 310                 315                 320


Glu Ile Leu Asp Ala Phe Asp Lys Met Cys Ser Lys Leu Pro Lys Ser
                325                 330                 335


Leu Ser Glu Glu Cys Gln Glu Val Val Asp Thr Tyr Gly Ser Ser Ile
            340                 345                 350


Leu Ser Ile Leu Leu Glu Glu Val Ser Pro Glu Leu Val Cys Ser Met
        355                 360                 365


Leu His Leu Cys Ser Gly Thr Arg Leu Pro Ala Leu Thr Val His Val
    370                 375                 380


Thr Gln Pro Lys Asp Gly Gly Phe Cys Glu Val Cys Lys Lys Leu Val
385                 390                 395                 400


Gly Tyr Leu Asp Arg Asn Leu Glu Lys Asn Ser Thr Lys Gln Glu Ile
                405                 410                 415
```

```
Leu Ala Ala Leu Glu Lys Gly Cys Ser Phe Leu Pro Asp Pro Tyr Gln
            420                 425                 430

Lys Gln Cys Asp Gln Phe Val Ala Glu Tyr Glu Pro Val Leu Ile Glu
        435                 440                 445

Ile Leu Val Glu Val Met Asp Pro Ser Phe Val Cys Leu Lys Ile Gly
    450                 455                 460

Ala Cys Pro Ser Ala His Lys Pro Leu Leu Gly Thr Glu Lys Cys Ile
465                 470                 475                 480

Trp Gly Pro Ser Tyr Trp Cys Gln Asn Thr Glu Thr Ala Ala Gln Cys
                485                 490                 495

Asn Ala Val Glu His Cys Lys Arg His Val Trp Asn
            500                 505
```

<210> 16
<211> 514
<212> PRT
<213> HOMO SAPIENS

<400> 16

```
Ala Arg Ala Pro Ser Val Ser Ala Lys Pro Gly Pro Ala Leu Trp Pro
1               5                   10                  15

Leu Pro Leu Ser Val Lys Met Thr Pro Asn Leu Leu His Leu Ala Pro
            20                  25                  30

Glu Asn Phe Tyr Ile Ser His Ser Pro Asn Ser Thr Ala Gly Pro Ser
        35                  40                  45

Cys Thr Leu Leu Glu Glu Ala Phe Arg Arg Tyr His Gly Tyr Ile Phe
    50                  55                  60
```

```
Gly Phe Tyr Lys Trp His His Glu Pro Ala Glu Phe Gln Ala Lys Thr
65                  70                  75                  80


Gln Val Gln Gln Leu Leu Val Ser Ile Thr Leu Gln Ser Glu Cys Asp
                85                  90                  95


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


Glu Pro Val Ala Val Leu Lys Ala Asn Arg Val Trp Gly Ala Leu Arg
        115                 120                 125


Gly Leu Glu Thr Phe Ser Gln Leu Val Tyr Gln Asp Ser Tyr Gly Thr
    130                 135                 140


Phe Thr Ile Asn Glu Ser Thr Ile Ile Asp Ser Pro Arg Phe Ser His
145                 150                 155                 160


Arg Gly Ile Leu Ile Asp Thr Ser Arg His Tyr Leu Pro Val Lys Ile
                165                 170                 175


Ile Leu Lys Thr Leu Asp Ala Met Ala Phe Asn Lys Phe Asn Val Leu
            180                 185                 190


His Trp His Ile Val Asp Asp Gln Ser Phe Pro Tyr Gln Ser Ile Thr
        195                 200                 205


Phe Pro Glu Leu Ser Asn Lys Gly Ser Tyr Ser Leu Ser His Val Tyr
    210                 215                 220


Thr Pro Asn Asp Val Arg Met Val Ile Glu Tyr Ala Arg Leu Arg Gly
225                 230                 235                 240


Ile Arg Val Leu Pro Glu Phe Asp Thr Pro Gly His Thr Leu Ser Trp
                245                 250                 255
```

```
Gly Lys Gly Gln Lys Asp Leu Leu Thr Pro Cys Tyr Ser Arg Gln Asn
            260                 265                 270

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

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

Gln Phe Ile His Leu Gly Gly Asp Glu Val Glu Phe Lys Cys Trp Glu
305                 310                 315                 320

Ser Asn Pro Lys Ile Gln Asp Phe Met Arg Gln Lys Gly Phe Gly Thr
                325                 330                 335

Asp Phe Lys Lys Leu Glu Ser Phe Tyr Ile Gln Lys Val Leu Asp Ile
            340                 345                 350

Ile Ala Thr Ile Asn Lys Gly Ser Ile Val Trp Gln Glu Val Phe Asp
        355                 360                 365

Asp Lys Ala Lys Leu Ala Pro Gly Thr Ile Val Glu Val Trp Lys Asp
    370                 375                 380

Ser Ala Tyr Pro Glu Glu Leu Ser Arg Val Thr Ala Ser Gly Phe Pro
385                 390                 395                 400

Val Ile Leu Ser Ala Pro Trp Tyr Leu Asp Leu Ile Ser Tyr Gly Gln
                405                 410                 415

Asp Trp Arg Lys Tyr Tyr Lys Val Glu Pro Leu Asp Phe Gly Gly Thr
            420                 425                 430

Gln Lys Gln Lys Gln Leu Phe Ile Gly Gly Glu Ala Cys Leu Trp Gly
        435                 440                 445
```

Glu Tyr Val Asp Ala Thr Asn Leu Thr Pro Arg Leu Trp Pro Arg Ala
450 455 460

Ser Ala Val Gly Glu Arg Leu Trp Ser Ser Lys Asp Val Arg Asp Met
465 470 475 480

Asp Asp Ala Tyr Asp Arg Leu Thr Arg His Arg Cys Arg Met Val Glu
485 490 495

Arg Gly Ile Ala Ala Gln Pro Leu Tyr Ala Gly Tyr Cys Asn His Glu
500 505 510

Asn Met

<210> 17
<211> 316
<212> PRT
<213> HOMO SAPIENS

<400> 17

Thr Leu Thr Phe Asp His Ser Leu Glu Ala Gln Trp Thr Lys Trp Lys
1 5 10 15

Ala Met His Asn Arg Leu Tyr Gly Met Asn Glu Glu Gly Trp Arg Arg
20 25 30

Ala Val Trp Glu Lys Asn Met Lys Met Ile Glu Leu His Asn Gln Glu
35 40 45

Tyr Arg Glu Gly Lys His Ser Phe Thr Met Ala Met Asn Ala Phe Gly
50 55 60

Asp Met Thr Ser Glu Glu Phe Arg Gln Val Met Asn Gly Phe Gln Asn
65 70 75 80

Arg Lys Pro Arg Lys Gly Lys Val Phe Gln Glu Pro Leu Phe Tyr Glu

```
                85                  90                  95

Ala Pro Arg Ser Val Asp Trp Arg Glu Lys Gly Tyr Val Thr Pro Val
            100                 105                 110

Lys Asn Gln Gly Gln Cys Gly Ser Cys Trp Ala Phe Ser Ala Thr Gly
        115                 120                 125

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

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

Cys Asn Gly Gly Leu Met Asp Tyr Ala Phe Gln Tyr Val Gln Asp Asn
                165                 170                 175

Gly Gly Leu Asp Ser Glu Glu Ser Tyr Pro Tyr Glu Ala Thr Glu Glu
            180                 185                 190

Ser Cys Lys Tyr Asn Pro Lys Tyr Ser Val Ala Asn Asp Thr Gly Phe
        195                 200                 205

Val Asp Ile Pro Lys Gln Glu Lys Ala Leu Met Lys Ala Val Ala Thr
    210                 215                 220

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

Phe Tyr Lys Glu Gly Ile Tyr Phe Glu Pro Asp Cys Ser Ser Glu Asp
                245                 250                 255

Met Asp His Gly Val Leu Val Val Gly Tyr Gly Phe Glu Ser Thr Glu
            260                 265                 270

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

275 280 285

Trp Gly Met Gly Gly Tyr Val Lys Met Ala Lys Asp Arg Arg Asn His
290 295 300

Cys Gly Ile Ala Ser Ala Ala Ser Tyr Pro Thr Val
305 310 315

<210> 18
<211> 322
<212> PRT
<213> HOMO SAPIENS

<400> 18

Arg Ser Arg Pro Ser Phe His Pro Leu Ser Asp Glu Leu Val Asn Tyr
1 5 10 15

Val Asn Lys Arg Asn Thr Thr Trp Gln Ala Gly His Asn Phe Tyr Asn
20 25 30

Val Asp Met Ser Tyr Leu Lys Arg Leu Cys Gly Thr Phe Leu Gly Gly
35 40 45

Pro Lys Pro Pro Gln Arg Val Met Phe Thr Glu Asp Leu Lys Leu Pro
50 55 60

Ala Ser Phe Asp Ala Arg Glu Gln Trp Pro Gln Cys Pro Thr Ile Lys
65 70 75 80

Glu Ile Arg Asp Gln Gly Ser Cys Gly Ser Cys Trp Ala Phe Gly Ala
85 90 95

Val Glu Ala Ile Ser Asp Arg Ile Cys Ile His Thr Asn Ala His Val
100 105 110

Ser Val Glu Val Ser Ala Glu Asp Leu Leu Thr Cys Cys Gly Ser Met
115 120 125

```
Cys Gly Asp Gly Cys Asn Gly Gly Tyr Pro Ala Glu Ala Trp Asn Phe
    130                 135                 140

Trp Thr Arg Lys Gly Leu Val Ser Gly Gly Leu Tyr Glu Ser His Val
145                 150                 155                 160

Gly Cys Arg Pro Tyr Ser Ile Pro Pro Cys Glu His His Val Asn Gly
                165                 170                 175

Ser Arg Pro Pro Cys Thr Gly Glu Gly Asp Thr Pro Lys Cys Ser Lys
            180                 185                 190

Ile Cys Glu Pro Gly Tyr Ser Pro Thr Tyr Lys Gln Asp Lys His Tyr
        195                 200                 205

Gly Tyr Asn Ser Tyr Ser Val Ser Asn Ser Glu Lys Asp Ile Met Ala
    210                 215                 220

Glu Ile Tyr Lys Asn Gly Pro Val Glu Gly Ala Phe Ser Val Tyr Ser
225                 230                 235                 240

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

Met Met Gly Gly His Ala Ile Arg Ile Leu Gly Trp Gly Val Glu Asn
            260                 265                 270

Gly Thr Pro Tyr Trp Leu Val Ala Asn Ser Trp Asn Thr Asp Trp Gly
        275                 280                 285

Asp Asn Gly Phe Phe Lys Ile Leu Arg Gly Gln Asp His Cys Gly Ile
    290                 295                 300

Glu Ser Glu Val Val Ala Gly Ile Pro Arg Thr Asp Gln Tyr Trp Glu
305                 310                 315                 320
```

Lys Ile

<210> 19
<211> 629
<212> PRT
<213> HOMO SAPIENS

<400> 19

```
Leu Gln Gly Gly Met Leu Tyr Pro Gln Glu Ser Pro Ser Arg Glu Cys
1               5                  10                  15

Lys Glu Leu Asp Gly Leu Trp Ser Phe Arg Ala Asp Phe Ser Asp Asn
            20                  25                  30

Arg Arg Arg Gly Phe Glu Glu Gln Trp Tyr Arg Arg Pro Leu Trp Glu
        35                  40                  45

Ser Gly Pro Thr Val Asp Met Pro Val Pro Ser Ser Phe Asn Asp Ile
    50                  55                  60

Ser Gln Asp Trp Arg Leu Arg His Phe Val Gly Trp Val Trp Tyr Glu
65                  70                  75                  80

Arg Glu Val Ile Leu Pro Glu Arg Trp Thr Gln Asp Leu Arg Thr Arg
                85                  90                  95

Val Val Leu Arg Ile Gly Ser Ala His Ser Tyr Ala Ile Val Trp Val
            100                 105                 110

Asn Gly Val Asp Thr Leu Glu His Glu Gly Gly Tyr Leu Pro Phe Glu
        115                 120                 125

Ala Asp Ile Ser Asn Leu Val Gln Val Gly Pro Leu Pro Ser Arg Leu
    130                 135                 140
```

```
Arg Ile Thr Ile Ala Ile Asn Asn Thr Leu Thr Pro Thr Thr Leu Pro
145                 150                 155                 160

Pro Gly Thr Ile Gln Tyr Leu Thr Asp Thr Ser Lys Tyr Pro Lys Gly
                165                 170                 175

Tyr Phe Val Gln Asn Thr Tyr Phe Asp Phe Phe Asn Tyr Ala Gly Leu
            180                 185                 190

Gln Arg Ser Val Leu Leu Tyr Thr Thr Pro Thr Thr Tyr Ile Asp Asp
        195                 200                 205

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

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

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

Gln Leu Lys Val Pro Gly Val Ser Leu Trp Trp Pro Tyr Leu Met His
            260                 265                 270

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

Thr Ser Leu Gly Pro Val Ser Asp Phe Tyr Thr Leu Pro Val Gly Ile
    290                 295                 300

Arg Thr Val Ala Val Thr Lys Ser Gln Phe Leu Ile Asn Gly Lys Pro
305                 310                 315                 320

Phe Tyr Phe His Gly Val Asn Lys His Glu Asp Ala Asp Ile Arg Gly
                325                 330                 335
```

```
Lys Gly Phe Asp Trp Pro Leu Leu Val Lys Asp Phe Asn Leu Leu Arg
            340                 345                 350

Trp Leu Gly Ala Asn Ala Phe Arg Thr Ser His Tyr Pro Tyr Ala Glu
        355                 360                 365

Glu Val Met Gln Met Cys Asp Arg Tyr Gly Ile Val Val Ile Asp Glu
    370                 375                 380

Cys Pro Gly Val Gly Leu Ala Leu Pro Gln Phe Phe Asn Asn Val Ser
385                 390                 395                 400

Leu His His His Met Gln Val Met Glu Glu Val Val Arg Arg Asp Lys
                405                 410                 415

Asn His Pro Ala Val Val Met Trp Ser Val Ala Asn Glu Pro Ala Ser
            420                 425                 430

His Leu Glu Ser Ala Gly Tyr Tyr Leu Lys Met Val Ile Ala His Thr
        435                 440                 445

Lys Ser Leu Asp Pro Ser Arg Pro Val Thr Phe Val Ser Asn Ser Asn
    450                 455                 460

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

Ser Tyr Tyr Ser Trp Tyr His Asp Tyr Gly His Leu Glu Leu Ile Gln
                485                 490                 495

Leu Gln Leu Ala Thr Gln Phe Glu Asn Trp Tyr Lys Lys Tyr Gln Lys
            500                 505                 510

Pro Ile Ile Gln Ser Glu Tyr Gly Ala Glu Thr Ile Ala Gly Phe His
        515                 520                 525
```

```
Gln Asp Pro Pro Leu Met Phe Thr Glu Glu Tyr Gln Lys Ser Leu Leu
    530                 535                 540


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


Gly Glu Leu Ile Trp Asn Phe Ala Asp Phe Met Thr Glu Gln Ser Pro
                565                 570                 575


Thr Arg Val Leu Gly Asn Lys Lys Gly Ile Phe Thr Arg Gln Arg Gln
            580                 585                 590


Pro Lys Ser Ala Ala Phe Leu Leu Arg Glu Arg Tyr Trp Lys Ile Ala
        595                 600                 605


Asn Glu Thr Arg Tyr Pro His Ser Val Ala Lys Ser Gln Cys Leu Glu
    610                 615                 620


Asn Ser Leu Phe Thr
625


<210>  20
<211>  313
<212>  PRT
<213>  HOMO SAPIENS

<400>  20

Ala Glu Leu Cys Val Asn Ser Leu Glu Lys Phe His Phe Lys Ser Trp
1               5                   10                  15


Met Ser Lys His Arg Lys Thr Tyr Ser Thr Glu Glu Tyr His His Arg
            20                  25                  30


Leu Gln Thr Phe Ala Ser Asn Trp Arg Lys Ile Asn Ala His Asn Asn
        35                  40                  45
```

```
Gly Asn His Thr Phe Lys Met Ala Leu Asn Gln Phe Ser Asp Met Ser
    50                  55                  60

Phe Ala Glu Ile Lys His Lys Tyr Leu Trp Ser Glu Pro Gln Asn Cys
65                  70                  75                  80

Ser Ala Thr Lys Ser Asn Tyr Leu Arg Gly Thr Gly Pro Tyr Pro Pro
                85                  90                  95

Ser Val Asp Trp Arg Lys Lys Gly Asn Phe Val Ser Pro Val Lys Asn
            100                 105                 110

Gln Gly Ala Cys Gly Ser Cys Trp Thr Phe Ser Thr Thr Gly Ala Leu
        115                 120                 125

Glu Ser Ala Ile Ala Ile Ala Thr Gly Lys Met Leu Ser Leu Ala Glu
    130                 135                 140

Gln Gln Leu Val Asp Cys Ala Gln Asp Phe Asn Asn His Gly Cys Gln
145                 150                 155                 160

Gly Gly Leu Pro Ser Gln Ala Phe Glu Tyr Ile Leu Tyr Asn Lys Gly
                165                 170                 175

Ile Met Gly Glu Asp Thr Tyr Pro Tyr Gln Gly Lys Asp Gly Tyr Cys
            180                 185                 190

Lys Phe Gln Pro Gly Lys Ala Ile Gly Phe Val Lys Asp Val Ala Asn
        195                 200                 205

Ile Thr Ile Tyr Asp Glu Glu Ala Met Val Glu Ala Val Ala Leu Tyr
    210                 215                 220

Asn Pro Val Ser Phe Ala Phe Glu Val Thr Gln Asp Phe Met Met Tyr
225                 230                 235                 240
```

```
Arg Thr Gly Ile Tyr Ser Ser Thr Ser Cys His Lys Thr Pro Asp Lys
                245                 250                 255


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


Pro Tyr Trp Ile Val Lys Asn Ser Trp Gly Pro Gln Trp Gly Met Asn
        275                 280                 285


Gly Tyr Phe Leu Ile Glu Arg Gly Lys Asn Met Cys Gly Leu Ala Ala
    290                 295                 300


Cys Ala Ser Tyr Pro Ile Pro Leu Val
305                 310


<210>  21
<211>  134
<212>  PRT
<213>  HOMO SAPIENS

<400>  21

Lys Pro Pro Gln Phe Thr Trp Ala Gln Trp Phe Glu Thr Gln His Ile
1               5                   10                  15


Asn Met Thr Ser Gln Gln Cys Thr Asn Ala Met Gln Val Ile Asn Asn
            20                  25                  30


Tyr Gln Arg Arg Cys Lys Asn Gln Asn Thr Phe Leu Leu Thr Thr Phe
        35                  40                  45


Ala Asn Val Val Asn Val Cys Gly Asn Pro Asn Met Thr Cys Pro Ser
    50                  55                  60


Asn Lys Thr Arg Lys Asn Cys His His Ser Gly Ser Gln Val Pro Leu
65                  70                  75                  80


Ile His Cys Asn Leu Thr Thr Pro Ser Pro Gln Asn Ile Ser Asn Cys
```

85 90 95

Arg Tyr Ala Gln Thr Pro Ala Asn Met Phe Tyr Ile Val Ala Cys Asp
100 105 110

Asn Arg Asp Gln Arg Arg Asp Pro Pro Gln Tyr Pro Val Val Pro Val
115 120 125

His Leu Asp Arg Ile Ile
130

<210> 22
<211> 925
<212> PRT
<213> HOMO SAPIENS

<400> 22

Gly His Ile Leu Leu His Asp Phe Leu Leu Val Pro Arg Glu Leu Ser
1 5 10 15

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

Ala Ser Arg Pro Gly Pro Arg Asp Ala Gln Ala His Pro Gly Arg Pro
35 40 45

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

Cys Ala Pro Asp Lys Ala Ile Thr Gln Glu Gln Cys Glu Ala Arg Gly
65 70 75 80

Cys Cys Tyr Ile Pro Ala Lys Gln Gly Leu Gln Gly Ala Gln Met Gly
85 90 95

Gln Pro Trp Cys Phe Phe Pro Pro Ser Tyr Pro Ser Tyr Lys Leu Glu
100 105 110

```
Asn Leu Ser Ser Ser Glu Met Gly Tyr Thr Ala Thr Leu Thr Arg Thr
        115                 120                 125

Thr Pro Thr Phe Phe Pro Lys Asp Ile Leu Thr Leu Arg Leu Asp Val
    130                 135                 140

Met Met Glu Thr Glu Asn Arg Leu His Phe Thr Ile Lys Asp Pro Ala
145                 150                 155                 160

Asn Arg Arg Tyr Glu Val Pro Leu Glu Thr Pro His Val His Ser Arg
                165                 170                 175

Ala Pro Ser Pro Leu Tyr Ser Val Glu Phe Ser Glu Glu Pro Phe Gly
            180                 185                 190

Val Ile Val Arg Arg Gln Leu Asp Gly Arg Val Leu Leu Asn Thr Thr
        195                 200                 205

Val Ala Pro Leu Phe Phe Ala Asp Gln Phe Leu Gln Leu Ser Thr Ser
    210                 215                 220

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

Met Leu Ser Thr Ser Trp Thr Arg Ile Thr Leu Trp Asn Arg Asp Leu
                245                 250                 255

Ala Pro Thr Pro Gly Ala Asn Leu Tyr Gly Ser His Pro Phe Tyr Leu
            260                 265                 270

Ala Leu Glu Asp Gly Gly Ser Ala His Gly Val Phe Leu Leu Asn Ser
        275                 280                 285

Asn Ala Met Asp Val Val Leu Gln Pro Ser Pro Ala Leu Ser Trp Arg
    290                 295                 300
```

```
Ser Thr Gly Gly Ile Leu Asp Val Tyr Ile Phe Leu Gly Pro Glu Pro
305                 310                 315                 320

Lys Ser Val Val Gln Gln Tyr Leu Asp Val Val Gly Tyr Pro Phe Met
                325                 330                 335

Pro Pro Tyr Trp Gly Leu Gly Phe His Leu Cys Arg Trp Gly Tyr Ser
            340                 345                 350

Ser Thr Ala Ile Thr Arg Gln Val Val Glu Asn Met Thr Arg Ala His
        355                 360                 365

Phe Pro Leu Asp Val Gln Trp Asn Asp Leu Asp Tyr Met Asp Ser Arg
    370                 375                 380

Arg Asp Phe Thr Phe Asn Lys Asp Gly Phe Arg Asp Phe Pro Ala Met
385                 390                 395                 400

Val Gln Glu Leu His Gln Gly Gly Arg Arg Tyr Met Met Ile Val Asp
                405                 410                 415

Pro Ala Ile Ser Ser Ser Gly Pro Ala Gly Ser Tyr Arg Pro Tyr Asp
            420                 425                 430

Glu Gly Leu Arg Arg Gly Val Phe Ile Thr Asn Glu Thr Gly Gln Pro
        435                 440                 445

Leu Ile Gly Lys Val Trp Pro Gly Ser Thr Ala Phe Pro Asp Phe Thr
    450                 455                 460

Asn Pro Thr Ala Leu Ala Trp Trp Glu Asp Met Val Ala Glu Phe His
465                 470                 475                 480

Asp Gln Val Pro Phe Asp Gly Met Trp Ile Asp Met Asn Glu Pro Ser
                485                 490                 495
```

```
Asn Phe Ile Arg Gly Ser Glu Asp Gly Cys Pro Asn Asn Glu Leu Glu
            500                 505                 510

Asn Pro Pro Tyr Val Pro Gly Val Val Gly Gly Thr Leu Gln Ala Ala
        515                 520                 525

Thr Ile Cys Ala Ser Ser His Gln Phe Leu Ser Thr His Tyr Asn Leu
    530                 535                 540

His Asn Leu Tyr Gly Leu Thr Glu Ala Ile Ala Ser His Arg Ala Leu
545                 550                 555                 560

Val Lys Ala Arg Gly Thr Arg Pro Phe Val Ile Ser Arg Ser Thr Phe
                565                 570                 575

Ala Gly His Gly Arg Tyr Ala Gly His Trp Thr Gly Asp Val Trp Ser
            580                 585                 590

Ser Trp Glu Gln Leu Ala Ser Ser Val Pro Glu Ile Leu Gln Phe Asn
        595                 600                 605

Leu Leu Gly Val Pro Leu Val Gly Ala Asp Val Cys Gly Phe Leu Gly
    610                 615                 620

Asn Thr Ser Glu Glu Leu Cys Val Arg Trp Thr Gln Leu Gly Ala Phe
625                 630                 635                 640

Tyr Pro Phe Met Arg Asn His Asn Ser Leu Leu Ser Leu Pro Gln Glu
                645                 650                 655

Pro Tyr Ser Phe Ser Glu Pro Ala Gln Gln Ala Met Arg Lys Ala Leu
            660                 665                 670

Thr Leu Arg Tyr Ala Leu Leu Pro His Leu Tyr Thr Leu Phe His Gln
        675                 680                 685
```

```
Ala His Val Ala Gly Glu Thr Val Ala Arg Pro Leu Phe Leu Glu Phe
    690                 695                 700

Pro Lys Asp Ser Ser Thr Trp Thr Val Asp His Gln Leu Leu Trp Gly
705                 710                 715                 720

Glu Ala Leu Leu Ile Thr Pro Val Leu Gln Ala Gly Lys Ala Glu Val
                725                 730                 735

Thr Gly Tyr Phe Pro Leu Gly Thr Trp Tyr Asp Leu Gln Thr Val Pro
            740                 745                 750

Val Glu Ala Leu Gly Ser Leu Pro Pro Pro Pro Ala Ala Pro Arg Glu
        755                 760                 765

Pro Ala Ile His Ser Glu Gly Gln Trp Val Thr Leu Pro Ala Pro Leu
    770                 775                 780

Asp Thr Ile Asn Val His Leu Arg Ala Gly Tyr Ile Ile Pro Leu Gln
785                 790                 795                 800

Gly Pro Gly Leu Thr Thr Thr Glu Ser Arg Gln Gln Pro Met Ala Leu
                805                 810                 815

Ala Val Ala Leu Thr Lys Gly Gly Glu Ala Arg Gly Glu Leu Phe Trp
            820                 825                 830

Asp Asp Gly Glu Ser Leu Glu Val Leu Glu Arg Gly Ala Tyr Thr Gln
        835                 840                 845

Val Ile Phe Leu Ala Arg Asn Asn Thr Ile Val Asn Glu Leu Val Arg
    850                 855                 860

Val Thr Ser Glu Gly Ala Gly Leu Gln Leu Gln Lys Val Thr Val Leu
865                 870                 875                 880
```

```
Gly Val Ala Thr Ala Pro Gln Gln Val Leu Ser Asn Gly Val Pro Val
                885                 890                 895


Ser Asn Phe Thr Tyr Ser Pro Asp Thr Lys Val Leu Asp Ile Cys Val
            900                 905                 910


Ser Leu Leu Met Gly Glu Gln Phe Leu Val Ser Trp Cys
        915                 920                 925


<210>  23
<211>  452
<212>  PRT
<213>  HOMO SAPIENS

<400>  23

Ala Pro Asp Gln Asp Glu Ile Gln Arg Leu Pro Gly Leu Ala Lys Gln
1               5                   10                  15


Pro Ser Phe Arg Gln Tyr Ser Gly Tyr Leu Lys Gly Ser Gly Ser Lys
            20                  25                  30


His Leu His Tyr Trp Phe Val Glu Ser Gln Lys Asp Pro Glu Asn Ser
        35                  40                  45


Pro Val Val Leu Trp Leu Asn Gly Gly Pro Gly Cys Ser Ser Leu Asp
    50                  55                  60


Gly Leu Leu Thr Glu His Gly Pro Phe Leu Val Gln Pro Asp Gly Val
65                  70                  75                  80


Thr Leu Glu Tyr Asn Pro Tyr Ser Trp Asn Leu Ile Ala Asn Val Leu
                85                  90                  95


Tyr Leu Glu Ser Pro Ala Gly Val Gly Phe Ser Tyr Ser Asp Asp Lys
            100                 105                 110
```

```
Phe Tyr Ala Thr Asn Asp Thr Glu Val Ala Gln Ser Asn Phe Glu Ala
        115                 120                 125

Leu Gln Asp Phe Phe Arg Leu Phe Pro Glu Tyr Lys Asn Asn Lys Leu
    130                 135                 140

Phe Leu Thr Gly Glu Ser Tyr Ala Gly Ile Tyr Ile Pro Thr Leu Ala
145                 150                 155                 160

Val Leu Val Met Gln Asp Pro Ser Met Asn Leu Gln Gly Leu Ala Val
                165                 170                 175

Gly Asn Gly Leu Ser Ser Tyr Glu Gln Asn Asp Asn Ser Leu Val Tyr
            180                 185                 190

Phe Ala Tyr Tyr His Gly Leu Leu Gly Asn Arg Leu Trp Ser Ser Leu
        195                 200                 205

Gln Thr His Cys Cys Ser Gln Asn Lys Cys Asn Phe Tyr Asp Asn Lys
    210                 215                 220

Asp Leu Glu Cys Val Thr Asn Leu Gln Glu Val Ala Arg Ile Val Gly
225                 230                 235                 240

Asn Ser Gly Leu Asn Ile Tyr Asn Leu Tyr Ala Pro Cys Ala Gly Gly
                245                 250                 255

Val Pro Ser His Phe Arg Tyr Glu Lys Asp Thr Val Val Val Gln Asp
            260                 265                 270

Leu Gly Asn Ile Phe Thr Arg Leu Pro Leu Lys Arg Met Trp His Gln
        275                 280                 285

Ala Leu Leu Arg Ser Gly Asp Lys Val Arg Met Asp Pro Pro Cys Thr
    290                 295                 300
```

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


Ala Leu Asn Ile Pro Glu Gln Leu Pro Gln Trp Asp Met Cys Asn Phe
                325                 330                 335


Leu Val Asn Leu Gln Tyr Arg Arg Leu Tyr Arg Ser Met Asn Ser Gln
            340                 345                 350


Tyr Leu Lys Leu Leu Ser Ser Gln Lys Tyr Gln Ile Leu Leu Tyr Asn
        355                 360                 365


Gly Asp Val Asp Met Ala Cys Asn Phe Met Gly Asp Glu Trp Phe Val
    370                 375                 380


Asp Ser Leu Asn Gln Lys Met Glu Val Gln Arg Arg Pro Trp Leu Val
385                 390                 395                 400


Lys Tyr Gly Asp Ser Gly Glu Gln Ile Ala Gly Phe Val Lys Glu Phe
                405                 410                 415


Ser His Ile Ala Phe Leu Thr Ile Lys Gly Ala Gly His Met Val Pro
            420                 425                 430


Thr Asp Lys Pro Leu Ala Ala Phe Thr Met Phe Ser Arg Phe Leu Asn
        435                 440                 445


Lys Gln Pro Tyr
    450
```

<210> 24
<211> 224
<212> PRT
<213> HOMO SAPIENS

<400> 24

```
Ser Pro Leu Gln Ala Leu Asp Phe Phe Gly Asn Gly Pro Pro Val Asn
1               5                  10                  15

Tyr Lys Thr Gly Asn Leu Tyr Leu Arg Gly Pro Leu Lys Lys Ser Asn
            20                  25                  30

Ala Pro Leu Val Asn Val Thr Leu Tyr Tyr Glu Ala Leu Cys Gly Gly
        35                  40                  45

Cys Arg Ala Phe Leu Ile Arg Glu Leu Phe Pro Thr Trp Leu Leu Val
    50                  55                  60

Met Glu Ile Leu Asn Val Thr Leu Val Pro Tyr Gly Asn Ala Gln Glu
65                  70                  75                  80

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

Glu Cys Lys Phe Asn Lys Val Glu Ala Cys Val Leu Asp Glu Leu Asp
            100                 105                 110

Met Glu Leu Ala Phe Leu Thr Ile Val Cys Met Glu Glu Phe Glu Asp
        115                 120                 125

Met Glu Arg Ser Leu Pro Leu Cys Leu Gln Leu Tyr Ala Pro Gly Leu
    130                 135                 140

Ser Pro Asp Thr Ile Met Glu Cys Ala Met Gly Asp Arg Gly Met Gln
145                 150                 155                 160

Leu Met His Ala Asn Ala Gln Arg Thr Asp Ala Leu Gln Pro Pro His
                165                 170                 175

Glu Tyr Val Pro Trp Val Thr Val Asn Gly Lys Pro Leu Glu Asp Gln
            180                 185                 190
```

```
Thr Gln Leu Leu Thr Leu Val Cys Gln Leu Tyr Gln Gly Lys Lys Pro
        195                 200                 205

Asp Val Cys Pro Ser Ser Thr Ser Ser Leu Arg Ser Val Cys Phe Lys
    210                 215                 220
```

<210> 25
<211> 304
<212> PRT
<213> HOMO SAPIENS

<400> 25

```
Ala Thr Pro Ala Leu Arg Phe Val Ala Val Gly Asp Trp Gly Gly Val
1               5                   10                  15

Pro Asn Ala Pro Phe His Thr Ala Arg Glu Met Ala Asn Ala Lys Glu
            20                  25                  30

Ile Ala Arg Thr Val Gln Ile Leu Gly Ala Asp Phe Ile Leu Ser Leu
        35                  40                  45

Gly Asp Asn Phe Tyr Phe Thr Gly Val Gln Asp Ile Asn Asp Lys Arg
    50                  55                  60

Phe Gln Glu Thr Phe Glu Asp Val Phe Ser Asp Arg Ser Leu Arg Lys
65                  70                  75                  80

Val Pro Trp Tyr Val Leu Ala Gly Asn His Asp His Leu Gly Asn Val
                85                  90                  95

Ser Ala Gln Ile Ala Tyr Ser Lys Ile Ser Lys Arg Trp Asn Phe Pro
            100                 105                 110

Ser Pro Phe Tyr Arg Leu His Phe Lys Ile Pro Gln Thr Asn Val Ser
        115                 120                 125

Val Ala Ile Phe Met Leu Asp Thr Val Thr Leu Cys Gly Asn Ser Asp
```

```
    130                 135                 140

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

Arg Thr Gln Leu Ser Trp Leu Lys Lys Gln Leu Ala Ala Ala Arg Glu
                165                 170                 175

Asp Tyr Val Leu Val Ala Gly His Tyr Pro Val Trp Ser Ile Ala Glu
            180                 185                 190

His Gly Pro Thr His Cys Leu Val Lys Gln Leu Arg Pro Leu Leu Ala
        195                 200                 205

Thr Tyr Gly Val Thr Ala Tyr Leu Cys Gly His Asp His Asn Leu Gln
    210                 215                 220

Tyr Leu Gln Asp Glu Asn Gly Val Gly Tyr Val Leu Ser Gly Ala Gly
225                 230                 235                 240

Asn Phe Met Asp Pro Ser Lys Arg His Gln Arg Lys Val Pro Asn Gly
                245                 250                 255

Tyr Leu Arg Phe His Tyr Gly Thr Glu Asp Ser Leu Gly Gly Phe Ala
            260                 265                 270

Tyr Val Glu Ile Ser Ser Lys Glu Met Thr Val Thr Tyr Ile Glu Ala
        275                 280                 285

Ser Gly Lys Ser Leu Phe Lys Thr Arg Leu Pro Arg Arg Ala Arg Pro
    290                 295                 300
```

<210> 26
<211> 489
<212> PRT
<213> HOMO SAPIENS

<400> 26

```
Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly Tyr Gly
1               5                   10                  15

Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn Leu Asp
            20                  25                  30

Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val
        35                  40                  45

Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro
    50                  55                  60

Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly
65                  70                  75                  80

Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg
                85                  90                  95

Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro
            100                 105                 110

Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly
        115                 120                 125

Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe
    130                 135                 140

Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro
145                 150                 155                 160

Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu
                165                 170                 175

Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala
            180                 185                 190
```

```
Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His
        195                 200                 205

His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser
    210                 215                 220

Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val
225                 230                 235                 240

Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr
                245                 250                 255

Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser
            260                 265                 270

Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr Thr Tyr
        275                 280                 285

Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly His Ile
    290                 295                 300

Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu Leu Pro
305                 310                 315                 320

Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr Leu Asp
                325                 330                 335

Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser Pro Arg
            340                 345                 350

Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg Gly Val
        355                 360                 365

Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr Gln Gly
    370                 375                 380
```

```
Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala Ser Ser
385                 390                 395                 400


Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser Lys Asp
                405                 410                 415


Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala Thr Pro
            420                 425                 430


Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala Gln Leu
        435                 440                 445


Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly Glu Asp
    450                 455                 460


Pro Ala Leu Gln Ile Cys Cys His Pro Gly Cys Thr Pro Arg Pro Ala
465                 470                 475                 480


Cys Cys His Cys Pro Asp Pro His Ala
                485
```

<210> 27
<211> 354
<212> PRT
<213> HOMO SAPIENS

<400> 27

```
Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
1               5                   10                  15


Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
            20                  25                  30


Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
        35                  40                  45
```

```
Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
    50                  55                  60

Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
65                  70                  75                  80

Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
                85                  90                  95

Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His
            100                 105                 110

Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
        115                 120                 125

Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
    130                 135                 140

Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
145                 150                 155                 160

Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys
                165                 170                 175

Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
            180                 185                 190

Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
        195                 200                 205

Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
    210                 215                 220

Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
225                 230                 235                 240
```

```
Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
                245                 250                 255


His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
            260                 265                 270


Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe
        275                 280                 285


Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln
    290                 295                 300


His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
305                 310                 315                 320


Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
                325                 330                 335


Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
            340                 345                 350


Thr Asp
```

<210> 28
<211> 516
<212> PRT
<213> HOMO SAPIENS

<400> 28

```
Val Phe Gly Val Ala Ala Gly Thr Arg Arg Pro Asn Val Val Leu Leu
1               5                   10                  15


Leu Thr Asp Asp Gln Asp Glu Val Leu Gly Gly Met Thr Pro Leu Lys
            20                  25                  30
```

```
Lys Thr Lys Ala Leu Ile Gly Glu Met Gly Met Thr Phe Ser Ser Ala
        35                  40                  45

Tyr Val Pro Ser Ala Leu Cys Cys Pro Ser Arg Ala Ser Ile Leu Thr
    50                  55                  60

Gly Lys Tyr Pro His Asn His His Val Val Asn Asn Thr Leu Glu Gly
65                  70                  75                  80

Asn Cys Ser Ser Lys Ser Trp Gln Lys Ile Gln Glu Pro Asn Thr Phe
                85                  90                  95

Pro Ala Ile Leu Arg Ser Met Cys Gly Tyr Gln Thr Phe Phe Ala Gly
            100                 105                 110

Lys Tyr Leu Asn Glu Tyr Gly Ala Pro Asp Ala Gly Gly Leu Glu His
        115                 120                 125

Val Pro Leu Gly Trp Ser Tyr Trp Tyr Ala Leu Glu Lys Asn Ser Lys
    130                 135                 140

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

Glu Asn Tyr Ser Val Asp Tyr Leu Thr Asp Val Leu Ala Asn Val Ser
                165                 170                 175

Leu Asp Phe Leu Asp Tyr Lys Ser Asn Phe Glu Pro Phe Phe Met Met
            180                 185                 190

Ile Ala Thr Pro Ala Pro His Ser Pro Trp Thr Ala Ala Pro Gln Tyr
        195                 200                 205

Gln Lys Ala Phe Gln Asn Val Phe Ala Pro Arg Asn Lys Asn Phe Asn
    210                 215                 220
```

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


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


Trp Gln Thr Leu Leu Ser Val Asp Asp Leu Val Glu Lys Leu Val Lys
            260                 265                 270


Arg Leu Glu Phe Thr Gly Glu Leu Asn Asn Thr Tyr Ile Phe Tyr Thr
        275                 280                 285


Ser Asp Asn Gly Tyr His Thr Gly Gln Phe Ser Leu Pro Ile Asp Lys
    290                 295                 300


Arg Gln Leu Tyr Glu Phe Asp Ile Lys Val Pro Leu Leu Val Arg Gly
305                 310                 315                 320


Pro Gly Ile Lys Pro Asn Gln Thr Ser Lys Met Leu Val Ala Asn Ile
                325                 330                 335


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


Thr Gln Met Asp Gly Met Ser Leu Leu Pro Ile Leu Arg Gly Ala Ser
        355                 360                 365


Asn Leu Thr Trp Arg Ser Asp Val Leu Val Glu Tyr Gln Gly Glu Gly
    370                 375                 380


Arg Asn Val Thr Asp Pro Thr Cys Pro Ser Leu Ser Pro Gly Val Ser
385                 390                 395                 400


Gln Cys Phe Pro Asp Cys Val Cys Glu Asp Ala Tyr Asn Asn Thr Tyr
                405                 410                 415
```

```
Ala Cys Val Arg Thr Met Ser Ala Leu Trp Asn Leu Gln Tyr Cys Glu
            420                 425                 430


Phe Asp Asp Gln Glu Val Phe Val Glu Val Tyr Asn Leu Thr Ala Asp
        435                 440                 445


Pro Asp Gln Ile Thr Asn Ile Ala Lys Thr Ile Asp Pro Glu Leu Leu
    450                 455                 460


Gly Lys Met Asn Tyr Arg Leu Met Met Leu Gln Ser Cys Ser Gly Pro
465                 470                 475                 480


Thr Cys Arg Thr Pro Gly Val Phe Asp Pro Gly Tyr Arg Phe Asp Pro
                485                 490                 495


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


Lys His Leu Leu
        515


<210>  29
<211>  497
<212>  PRT
<213>  HOMO SAPIENS

<400>  29

Ser Gly Ala Gly Ala Ser Arg Pro Pro His Leu Val Phe Leu Leu Ala
1               5                   10                  15


Asp Asp Leu Gly Trp Asn Asp Val Gly Phe His Gly Ser Arg Ile Arg
            20                  25                  30


Thr Pro His Leu Asp Ala Leu Ala Ala Gly Gly Val Leu Leu Asp Asn
        35                  40                  45


Tyr Tyr Thr Gln Pro Leu Cys Thr Pro Ser Arg Ser Gln Leu Leu Thr
```

```
    50                  55                  60

Gly Arg Tyr Gln Ile Arg Thr Gly Leu Gln His Gln Ile Ile Trp Pro
65                  70                  75                  80

Cys Gln Pro Ser Cys Val Pro Leu Asp Glu Lys Leu Leu Pro Gln Leu
                85                  90                  95

Leu Lys Glu Ala Gly Tyr Thr Thr His Met Val Gly Lys Trp His Leu
            100                 105                 110

Gly Met Tyr Arg Lys Glu Cys Leu Pro Thr Arg Arg Gly Phe Asp Thr
        115                 120                 125

Tyr Phe Gly Tyr Leu Leu Gly Ser Glu Asp Tyr Tyr Ser His Glu Arg
    130                 135                 140

Cys Thr Leu Ile Asp Ala Leu Asn Val Thr Arg Cys Ala Leu Asp Phe
145                 150                 155                 160

Arg Asp Gly Glu Glu Val Ala Thr Gly Tyr Lys Asn Met Tyr Ser Thr
                165                 170                 175

Asn Ile Phe Thr Lys Arg Ala Ile Ala Leu Ile Thr Asn His Pro Pro
            180                 185                 190

Glu Lys Pro Leu Phe Leu Tyr Leu Ala Leu Gln Ser Val His Glu Pro
        195                 200                 205

Leu Gln Val Pro Glu Glu Tyr Leu Lys Pro Tyr Asp Phe Ile Gln Asp
    210                 215                 220

Lys Asn Arg His His Tyr Ala Gly Met Val Ser Leu Met Asp Glu Ala
225                 230                 235                 240

Val Gly Asn Val Thr Ala Ala Leu Lys Ser Ser Gly Leu Trp Asn Asn
```

```
               245                 250                 255

Thr Val Phe Ile Phe Ser Thr Asp Asn Gly Gly Gln Thr Leu Ala Gly
            260                 265                 270

Gly Asn Asn Trp Pro Leu Arg Gly Arg Lys Trp Ser Leu Trp Glu Gly
        275                 280                 285

Gly Val Arg Gly Val Gly Phe Val Ala Ser Pro Leu Leu Lys Gln Lys
    290                 295                 300

Gly Val Lys Asn Arg Glu Leu Ile His Ile Ser Asp Trp Leu Pro Thr
305                 310                 315                 320

Leu Val Lys Leu Ala Arg Gly His Thr Asn Gly Thr Lys Pro Leu Asp
                325                 330                 335

Gly Phe Asp Val Trp Lys Thr Ile Ser Glu Gly Ser Pro Ser Pro Arg
            340                 345                 350

Ile Glu Leu Leu His Asn Ile Asp Pro Asn Phe Val Asp Ser Ser Pro
        355                 360                 365

Cys Pro Arg Asn Ser Met Ala Pro Ala Lys Asp Asp Ser Ser Leu Pro
    370                 375                 380

Glu Tyr Ser Ala Phe Asn Thr Ser Val His Ala Ala Ile Arg His Gly
385                 390                 395                 400

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

Pro Pro Ser Gln Tyr Asn Val Ser Glu Ile Pro Ser Ser Asp Pro Pro
            420                 425                 430

Thr Lys Thr Leu Trp Leu Phe Asp Ile Asp Arg Asp Pro Glu Glu Arg
```

435 440 445

His Asp Leu Ser Arg Glu Tyr Pro His Ile Val Thr Lys Leu Leu Ser
450 455 460

Arg Leu Gln Phe Tyr His Lys His Ser Val Pro Val Tyr Phe Pro Ala
465 470 475 480

Gln Asp Pro Arg Cys Asp Pro Lys Ala Thr Gly Val Trp Gly Pro Trp
485 490 495

Met

<210> 30
<211> 654
<212> PRT
<213> HOMO SAPIENS

<400> 30

Leu Arg Asn Ala Thr Gln Arg Met Phe Glu Ile Asp Tyr Ser Arg Asp
1 5 10 15

Ser Phe Leu Lys Asp Gly Gln Pro Phe Arg Tyr Ile Ser Gly Ser Ile
20 25 30

His Tyr Ser Arg Val Pro Arg Phe Tyr Trp Lys Asp Arg Leu Leu Lys
35 40 45

Met Lys Met Ala Gly Leu Asn Ala Ile Gln Thr Tyr Val Pro Trp Asn
50 55 60

Phe His Glu Pro Trp Pro Gly Gln Tyr Gln Phe Ser Glu Asp His Asp
65 70 75 80

Val Glu Tyr Phe Leu Arg Leu Ala His Glu Leu Gly Leu Leu Val Ile
85 90 95

```
Leu Arg Pro Gly Pro Tyr Ile Cys Ala Glu Trp Glu Met Gly Gly Leu
            100                 105                 110

Pro Ala Trp Leu Leu Glu Lys Glu Ser Ile Leu Leu Arg Ser Ser Asp
        115                 120                 125

Pro Asp Tyr Leu Ala Ala Val Asp Lys Trp Leu Gly Val Leu Leu Pro
    130                 135                 140

Lys Met Lys Pro Leu Leu Tyr Gln Asn Gly Gly Pro Val Ile Thr Val
145                 150                 155                 160

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

Leu Arg Phe Leu Gln Lys Arg Phe Arg His His Leu Gly Asp Asp Val
            180                 185                 190

Val Leu Phe Thr Thr Asp Gly Ala His Lys Thr Phe Leu Lys Cys Gly
        195                 200                 205

Ala Leu Gln Gly Leu Tyr Thr Thr Val Asp Phe Gly Thr Gly Ser Asn
    210                 215                 220

Ile Thr Asp Ala Phe Leu Ser Gln Arg Lys Cys Glu Pro Lys Gly Pro
225                 230                 235                 240

Leu Ile Asn Ser Glu Phe Tyr Thr Gly Trp Leu Asp His Trp Gly Gln
                245                 250                 255

Pro His Ser Thr Ile Lys Thr Glu Ala Val Ala Ser Ser Leu Tyr Asp
            260                 265                 270

Ile Leu Ala Arg Gly Ala Ser Val Asn Leu Tyr Met Phe Ile Gly Gly
        275                 280                 285
```

```
Thr Asn Phe Ala Tyr Trp Asn Gly Ala Asn Ser Pro Tyr Ala Ala Gln
    290                 295                 300

Pro Thr Ser Tyr Asp Tyr Asp Ala Pro Leu Ser Glu Ala Gly Asp Leu
305                 310                 315                 320

Thr Glu Lys Tyr Phe Ala Leu Arg Asn Ile Ile Gln Lys Phe Glu Lys
                325                 330                 335

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

Lys Val Thr Leu Glu Lys Leu Lys Thr Val Gly Ala Ala Leu Asp Ile
        355                 360                 365

Leu Cys Pro Ser Gly Pro Ile Lys Ser Leu Tyr Pro Leu Thr Phe Ile
    370                 375                 380

Gln Val Lys Gln His Tyr Gly Phe Val Leu Tyr Arg Thr Thr Leu Pro
385                 390                 395                 400

Gln Asp Cys Ser Asn Pro Ala Pro Leu Ser Ser Pro Leu Asn Gly Val
                405                 410                 415

His Asp Arg Ala Tyr Val Ala Val Asp Gly Ile Pro Gln Gly Val Leu
            420                 425                 430

Glu Arg Asn Asn Val Ile Thr Leu Asn Ile Thr Gly Lys Ala Gly Ala
        435                 440                 445

Thr Leu Asp Leu Leu Val Glu Asn Met Gly Arg Val Asn Tyr Gly Ala
    450                 455                 460

Tyr Ile Asn Asp Phe Lys Gly Leu Val Ser Asn Leu Thr Leu Ser Ser
465                 470                 475                 480
```

```
Asn Ile Leu Thr Asp Trp Thr Ile Phe Pro Leu Asp Thr Glu Asp Ala
                485                 490                 495

Val Arg Ser His Leu Gly Gly Trp Gly His Arg Asp Ser Gly His His
            500                 505                 510

Asp Glu Ala Trp Ala His Asn Ser Ser Asn Tyr Thr Leu Pro Ala Phe
        515                 520                 525

Tyr Met Gly Asn Phe Ser Ile Pro Ser Gly Ile Pro Asp Leu Pro Gln
    530                 535                 540

Asp Thr Phe Ile Gln Phe Pro Gly Trp Thr Lys Gly Gln Val Trp Ile
545                 550                 555                 560

Asn Gly Phe Asn Leu Gly Arg Tyr Trp Pro Ala Arg Gly Pro Gln Leu
                565                 570                 575

Thr Leu Phe Val Pro Gln His Ile Leu Met Thr Ser Ala Pro Asn Thr
            580                 585                 590

Ile Thr Val Leu Glu Leu Glu Trp Ala Pro Cys Ser Ser Asp Asp Pro
        595                 600                 605

Glu Leu Cys Ala Val Thr Phe Val Asp Arg Pro Val Ile Gly Ser Ser
    610                 615                 620

Val Thr Tyr Asp His Pro Ser Lys Pro Val Glu Lys Arg Leu Met Pro
625                 630                 635                 640

Pro Pro Pro Gln Lys Asn Lys Asp Ser Trp Leu Asp His Val
                645                 650
```

<210> 31
<211> 394

<212> PRT
<213> HOMO SAPIENS

<400> 31

```
Leu Asp Asn Gly Leu Leu Gln Thr Pro Pro Met Gly Trp Leu Ala Trp
1               5                  10                  15

Glu Arg Phe Arg Cys Asn Ile Asn Cys Asp Glu Asp Pro Lys Asn Cys
            20                  25                  30

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

Gly Trp Arg Asp Met Gly Tyr Thr Tyr Leu Asn Ile Asp Asp Cys Trp
    50                  55                  60

Ile Gly Gly Arg Asp Ala Ser Gly Arg Leu Met Pro Asp Pro Lys Arg
65                  70                  75                  80

Phe Pro His Gly Ile Pro Phe Leu Ala Asp Tyr Val His Ser Leu Gly
                85                  90                  95

Leu Lys Leu Gly Ile Tyr Ala Asp Met Gly Asn Phe Thr Cys Met Gly
            100                 105                 110

Tyr Pro Gly Thr Thr Leu Asp Lys Val Val Gln Asp Ala Gln Thr Phe
        115                 120                 125

Ala Glu Trp Lys Val Asp Met Leu Lys Leu Asp Gly Cys Phe Ser Thr
    130                 135                 140

Pro Glu Glu Arg Ala Gln Gly Tyr Pro Lys Met Ala Ala Ala Leu Asn
145                 150                 155                 160

Ala Thr Gly Arg Pro Ile Ala Phe Ser Cys Ser Trp Pro Ala Tyr Glu
                165                 170                 175
```

```
Gly Gly Leu Pro Pro Arg Val Asn Tyr Ser Leu Leu Ala Asp Ile Cys
            180                 185                 190

Asn Leu Trp Arg Asn Tyr Asp Asp Ile Gln Asp Ser Trp Trp Ser Val
        195                 200                 205

Leu Ser Ile Leu Asn Trp Phe Val Glu His Gln Asp Ile Leu Gln Pro
    210                 215                 220

Val Ala Gly Pro Gly His Trp Asn Asp Pro Asp Met Leu Leu Ile Gly
225                 230                 235                 240

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

Thr Val Leu Ala Ala Pro Leu Leu Met Ser Thr Asp Leu Arg Thr Ile
            260                 265                 270

Ser Ala Gln Asn Met Asp Ile Leu Gln Asn Pro Leu Met Ile Lys Ile
        275                 280                 285

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

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

Leu Val Phe Phe Ser Cys Arg Thr Asp Met Pro Tyr Arg Tyr His Ser
                325                 330                 335

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

Asp Val Tyr Ser Gly Asp Ile Ile Ser Gly Leu Arg Asp Glu Thr Asn
        355                 360                 365
```

```
Phe Thr Val Ile Ile Asn Pro Ser Gly Val Val Met Trp Tyr Leu Tyr
    370                 375                 380


Pro Ile Lys Asn Leu Glu Met Ser Gln Gln
385                 390


<210>  32
<211>  583
<212>  PRT
<213>  HOMO SAPIENS

<400>  32

Leu Ser Asp Ser Arg Val Leu Trp Ala Pro Ala Glu Ala His Pro Leu
1               5                   10                  15


Ser Pro Gln Gly His Pro Ala Arg Leu His Arg Ile Val Pro Arg Leu
            20                  25                  30


Arg Asp Val Phe Gly Trp Gly Asn Leu Thr Cys Pro Ile Cys Lys Gly
        35                  40                  45


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


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


Pro Pro Ala Val Cys Gln Ser Ile Val His Leu Phe Glu Asp Asp Met
                85                  90                  95


Val Glu Val Trp Arg Arg Ser Val Leu Ser Pro Ser Glu Ala Cys Gly
            100                 105                 110


Leu Leu Leu Gly Ser Thr Cys Gly His Trp Asp Ile Phe Ser Ser Trp
        115                 120                 125
```

```
Asn Ile Ser Leu Pro Thr Val Pro Lys Pro Pro Pro Lys Pro Pro Ser
    130                 135                 140

Pro Pro Ala Pro Gly Ala Pro Val Ser Arg Ile Leu Phe Leu Thr Asp
145                 150                 155                 160

Leu His Trp Asp His Asp Tyr Leu Glu Gly Thr Asp Pro Asp Cys Ala
                165                 170                 175

Asp Pro Leu Cys Cys Arg Arg Gly Ser Gly Leu Pro Pro Ala Ser Arg
            180                 185                 190

Pro Gly Ala Gly Tyr Trp Gly Glu Tyr Ser Lys Cys Asp Leu Pro Leu
        195                 200                 205

Arg Thr Leu Glu Ser Leu Leu Ser Gly Leu Gly Pro Ala Gly Pro Phe
    210                 215                 220

Asp Met Val Tyr Trp Thr Gly Asp Ile Pro Ala His Asp Val Trp His
225                 230                 235                 240

Gln Thr Arg Gln Asp Gln Leu Arg Ala Leu Thr Thr Val Thr Ala Leu
                245                 250                 255

Val Arg Lys Phe Leu Gly Pro Val Pro Val Tyr Pro Ala Val Gly Asn
            260                 265                 270

His Glu Ser Thr Pro Val Asn Ser Phe Pro Pro Pro Phe Ile Glu Gly
        275                 280                 285

Asn His Ser Ser Arg Trp Leu Tyr Glu Ala Met Ala Lys Ala Trp Glu
    290                 295                 300

Pro Trp Leu Pro Ala Glu Ala Leu Arg Thr Leu Arg Ile Gly Gly Phe
305                 310                 315                 320
```

```
Tyr Ala Leu Ser Pro Tyr Pro Gly Leu Arg Leu Ile Ser Leu Asn Met
                325                 330                 335

Asn Phe Cys Ser Arg Glu Asn Phe Trp Leu Leu Ile Asn Ser Thr Asp
            340                 345                 350

Pro Ala Gly Gln Leu Gln Trp Leu Val Gly Glu Leu Gln Ala Ala Glu
        355                 360                 365

Asp Arg Gly Asp Lys Val His Ile Ile Gly His Ile Pro Pro Gly His
    370                 375                 380

Cys Leu Lys Ser Trp Ser Trp Asn Tyr Tyr Arg Ile Val Ala Arg Tyr
385                 390                 395                 400

Glu Asn Thr Leu Ala Ala Gln Phe Phe Gly His Thr His Val Asp Glu
                405                 410                 415

Phe Glu Val Phe Tyr Asp Glu Glu Thr Leu Ser Arg Pro Leu Ala Val
            420                 425                 430

Ala Phe Leu Ala Pro Ser Ala Thr Thr Tyr Ile Gly Leu Asn Pro Gly
        435                 440                 445

Tyr Arg Val Tyr Gln Ile Asp Gly Asn Tyr Ser Gly Ser Ser His Val
    450                 455                 460

Val Leu Asp His Glu Thr Tyr Ile Leu Asn Leu Thr Gln Ala Asn Ile
465                 470                 475                 480

Pro Gly Ala Ile Pro His Trp Gln Leu Leu Tyr Arg Ala Arg Glu Thr
                485                 490                 495

Tyr Gly Leu Pro Asn Thr Leu Pro Thr Ala Trp His Asn Leu Val Tyr
            500                 505                 510
```

```
Arg Met Arg Gly Asp Met Gln Leu Phe Gln Thr Phe Trp Phe Leu Tyr
        515                 520                 525


His Lys Gly His Pro Pro Ser Glu Pro Cys Gly Thr Pro Cys Arg Leu
    530                 535                 540


Ala Thr Leu Cys Ala Gln Leu Ser Ala Arg Ala Asp Ser Pro Ala Leu
545                 550                 555                 560


Cys Arg His Leu Met Pro Asp Gly Ser Leu Pro Glu Ala Gln Ser Leu
                565                 570                 575


Trp Pro Arg Pro Leu Phe Cys
            580


<210>  33
<211>  170
<212>  PRT
<213>  HOMO SAPIENS

<400>  33

His Leu Lys Lys Pro Ser Gln Leu Ser Ser Phe Ser Trp Asp Asn Cys
1               5                   10                  15


Asp Glu Gly Lys Asp Pro Ala Val Ile Arg Ser Leu Thr Leu Glu Pro
            20                  25                  30


Asp Pro Ile Ile Val Pro Gly Asn Val Thr Leu Ser Val Met Gly Ser
        35                  40                  45


Thr Ser Val Pro Leu Ser Ser Pro Leu Lys Val Asp Leu Val Leu Glu
    50                  55                  60


Lys Glu Val Ala Gly Leu Trp Ile Lys Ile Pro Cys Thr Asp Tyr Ile
65                  70                  75                  80


Gly Ser Cys Thr Phe Glu His Phe Cys Asp Val Leu Asp Met Leu Ile
```

85 90 95

Pro Thr Gly Glu Pro Cys Pro Glu Pro Leu Arg Thr Tyr Gly Leu Pro
100 105 110

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

Phe Val Val Pro Asp Leu Glu Leu Pro Ser Trp Leu Thr Thr Gly Asn
130 135 140

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

Ile Lys Ile Ala Ala Ser Leu Lys Gly Ile
165 170

<210> 34
<211> 323
<212> PRT
<213> HOMO SAPIENS

<400> 34

Ser Ser Pro Leu Pro Leu Val Val Asn Thr Trp Pro Phe Lys Asn Ala
1 5 10 15

Thr Glu Ala Ala Trp Arg Ala Leu Ala Ser Gly Gly Ser Ala Leu Asp
20 25 30

Ala Val Glu Ser Gly Cys Ala Met Cys Glu Arg Glu Gln Cys Asp Gly
35 40 45

Ser Val Gly Phe Gly Gly Ser Pro Asp Glu Leu Gly Glu Thr Thr Leu
50 55 60

Asp Ala Met Ile Met Asp Gly Thr Thr Met Asp Val Gly Ala Val Gly
65 70 75 80

```
Asp Leu Arg Arg Ile Lys Asn Ala Ile Gly Val Ala Arg Lys Val Leu
                85                  90                  95

Glu His Thr Thr His Thr Leu Leu Val Gly Glu Ser Ala Thr Thr Phe
            100                 105                 110

Ala Gln Ser Met Gly Phe Ile Asn Glu Asp Leu Ser Thr Thr Ala Ser
        115                 120                 125

Gln Ala Leu His Ser Asp Trp Leu Ala Arg Asn Cys Gln Pro Asn Tyr
    130                 135                 140

Trp Arg Asn Val Ile Pro Asp Pro Ser Lys Tyr Cys Gly Pro Tyr Lys
145                 150                 155                 160

Pro Pro Gly Ile Leu Lys Gln Asp Ile Pro Ile His Lys Glu Thr Glu
                165                 170                 175

Asp Asp Arg Gly His Asp Thr Ile Gly Met Val Val Ile His Lys Thr
            180                 185                 190

Gly His Ile Ala Ala Gly Thr Ser Thr Asn Gly Ile Lys Phe Lys Ile
        195                 200                 205

His Gly Arg Val Gly Asp Ser Pro Ile Pro Gly Ala Gly Ala Tyr Ala
    210                 215                 220

Asp Asp Thr Ala Gly Ala Ala Ala Ala Thr Gly Asn Gly Asp Ile Leu
225                 230                 235                 240

Met Arg Phe Leu Pro Ser Tyr Gln Ala Val Glu Tyr Met Arg Arg Gly
                245                 250                 255

Glu Asp Pro Thr Ile Ala Cys Gln Lys Val Ile Ser Arg Ile Gln Lys
            260                 265                 270
```

```
His Phe Pro Glu Phe Phe Gly Ala Val Ile Cys Ala Asn Val Thr Gly
        275                 280                 285

Ser Tyr Gly Ala Ala Cys Asn Lys Leu Ser Thr Phe Thr Gln Phe Ser
    290                 295                 300

Phe Met Val Tyr Asn Ser Glu Lys Asn Gln Pro Thr Glu Glu Lys Val
305                 310                 315                 320

Asp Cys Ile
```

<210> 35
<211> 525
<212> PRT
<213> HOMO SAPIENS

<400> 35

```
Ser Glu Thr Gln Ala Asn Ser Thr Thr Asp Ala Leu Asn Val Leu Leu
1               5                   10                  15

Ile Ile Val Asp Asp Leu Arg Pro Ser Leu Gly Cys Tyr Gly Asp Lys
            20                  25                  30

Leu Val Arg Ser Pro Asn Ile Asp Gln Leu Ala Ser His Ser Leu Leu
        35                  40                  45

Phe Gln Asn Ala Phe Ala Gln Gln Ala Val Cys Ala Pro Ser Arg Val
    50                  55                  60

Ser Phe Leu Thr Gly Arg Arg Pro Asp Thr Thr Arg Leu Tyr Asp Phe
65                  70                  75                  80

Asn Ser Tyr Trp Arg Val His Ala Gly Asn Phe Ser Thr Ile Pro Gln
                85                  90                  95
```

```
Tyr Phe Lys Glu Asn Gly Tyr Val Thr Met Ser Val Gly Lys Val Phe
            100                 105                 110

His Pro Gly Ile Ser Ser Asn His Thr Asp Asp Ser Pro Tyr Ser Trp
        115                 120                 125

Ser Phe Pro Pro Tyr His Pro Ser Ser Glu Lys Tyr Glu Asn Thr Lys
    130                 135                 140

Thr Cys Arg Gly Pro Asp Gly Glu Leu His Ala Asn Leu Leu Cys Pro
145                 150                 155                 160

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

Thr Glu Gln Ala Ile Gln Leu Leu Glu Lys Met Lys Thr Ser Ala Ser
            180                 185                 190

Pro Phe Phe Leu Ala Val Gly Tyr His Lys Pro His Ile Pro Phe Arg
        195                 200                 205

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

Ala Pro Asp Pro Glu Val Pro Asp Gly Leu Pro Pro Val Ala Tyr Asn
225                 230                 235                 240

Pro Trp Met Asp Ile Arg Gln Arg Glu Asp Val Gln Ala Leu Asn Ile
                245                 250                 255

Ser Val Pro Tyr Gly Pro Ile Pro Val Asp Phe Gln Arg Lys Ile Arg
            260                 265                 270

Gln Ser Tyr Phe Ala Ser Val Ser Tyr Leu Asp Thr Gln Val Gly Arg
        275                 280                 285
```

```
Leu Leu Ser Ala Leu Asp Asp Leu Gln Leu Ala Asn Ser Thr Ile Ile
    290                 295                 300

Ala Phe Thr Ser Asp His Gly Trp Ala Leu Gly Glu His Gly Glu Trp
305                 310                 315                 320

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

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

Phe Pro Tyr Leu Asp Pro Phe Asp Ser Ala Ser Gln Leu Met Glu Pro
        355                 360                 365

Gly Arg Gln Ser Met Asp Leu Val Glu Leu Val Ser Leu Phe Pro Thr
    370                 375                 380

Leu Ala Gly Leu Ala Gly Leu Gln Val Pro Pro Arg Cys Pro Val Pro
385                 390                 395                 400

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

Phe Arg Phe Arg Asp Leu Glu Glu Asp Pro Tyr Leu Pro Gly Asn Pro
            420                 425                 430

Arg Glu Leu Ile Ala Tyr Ser Gln Tyr Pro Arg Pro Ser Asp Ile Pro
        435                 440                 445

Gln Trp Asn Ser Asp Lys Pro Ser Leu Lys Asp Ile Lys Ile Met Gly
    450                 455                 460

Tyr Ser Ile Arg Thr Ile Asp Tyr Arg Tyr Thr Val Trp Val Gly Phe
465                 470                 475                 480
```

```
Asn Pro Asp Glu Phe Leu Ala Asn Phe Ser Asp Ile His Ala Gly Glu
                485                 490                 495


Leu Tyr Phe Val Asp Ser Asp Pro Leu Gln Asp His Asn Met Tyr Asn
            500                 505                 510


Asp Ser Gln Gly Gly Asp Leu Phe Gln Leu Leu Met Pro
        515                 520                 525


<210>  36
<211>  315
<212>  PRT
<213>  HOMO SAPIENS

<400>  36

Gln Leu His Lys Asp Pro Thr Leu Asp His His Trp His Leu Trp Lys
1               5                   10                  15


Lys Thr Tyr Gly Lys Gln Tyr Lys Glu Lys Asn Glu Glu Ala Val Arg
            20                  25                  30


Arg Leu Ile Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu
        35                  40                  45


Glu His Ser Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu
    50                  55                  60


Gly Asp Met Thr Ser Glu Glu Val Met Ser Leu Met Ser Ser Leu Arg
65                  70                  75                  80


Val Pro Ser Gln Trp Gln Arg Asn Ile Thr Tyr Lys Ser Asn Pro Asn
                85                  90                  95


Arg Ile Leu Pro Asp Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr
            100                 105                 110
```

```
Glu Val Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala
        115                 120                 125

Val Gly Ala Leu Glu Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val
    130                 135                 140

Ser Leu Ser Ala Gln Asn Leu Val Asp Cys Ser Thr Glu Lys Tyr Gly
145                 150                 155                 160

Asn Lys Gly Cys Asn Gly Gly Phe Met Thr Thr Ala Phe Gln Tyr Ile
                165                 170                 175

Ile Asp Asn Lys Gly Ile Asp Ser Asp Ala Ser Tyr Pro Tyr Lys Ala
            180                 185                 190

Met Asp Gln Lys Cys Gln Tyr Asp Ser Lys Tyr Arg Ala Ala Thr Cys
        195                 200                 205

Ser Lys Tyr Thr Glu Leu Pro Tyr Gly Arg Glu Asp Val Leu Lys Glu
    210                 215                 220

Ala Val Ala Asn Lys Gly Pro Val Ser Val Gly Val Asp Ala Arg His
225                 230                 235                 240

Pro Ser Phe Phe Leu Tyr Arg Ser Gly Val Tyr Tyr Glu Pro Ser Cys
                245                 250                 255

Thr Gln Asn Val Asn His Gly Val Leu Val Val Gly Tyr Gly Asp Leu
            260                 265                 270

Asn Gly Lys Glu Tyr Trp Leu Val Lys Asn Ser Trp Gly His Asn Phe
        275                 280                 285

Gly Glu Glu Gly Tyr Ile Arg Met Ala Arg Asn Lys Gly Asn His Cys
    290                 295                 300
```

Gly Ile Ala Ser Phe Pro Ser Tyr Pro Glu Ile
305 310 315

<210> 37
<211> 496
<212> PRT
<213> HOMO SAPIENS

<400> 37

Ala Pro Gln Pro Pro Asn Ile Leu Leu Leu Leu Met Asp Asp Met Gly
1 5 10 15

Trp Gly Asp Leu Gly Val Tyr Gly Glu Pro Ser Arg Glu Thr Pro Asn
20 25 30

Leu Asp Arg Met Ala Ala Glu Gly Leu Leu Phe Pro Asn Phe Tyr Ser
35 40 45

Ala Asn Pro Leu Cys Ser Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg
50 55 60

Leu Pro Ile Arg Asn Gly Phe Tyr Thr Thr Asn Ala His Ala Arg Asn
65 70 75 80

Ala Tyr Thr Pro Gln Glu Ile Val Gly Gly Ile Pro Asp Ser Glu Gln
85 90 95

Leu Leu Pro Glu Leu Leu Lys Lys Ala Gly Tyr Val Ser Lys Ile Val
100 105 110

Gly Lys Trp His Leu Gly His Arg Pro Gln Phe His Pro Leu Lys His
115 120 125

Gly Phe Asp Glu Trp Phe Gly Ser Pro Asn Cys His Phe Gly Pro Tyr
130 135 140

Asp Asn Lys Ala Arg Pro Asn Ile Pro Val Tyr Arg Asp Trp Glu Met

```
145                 150                 155                 160

Val Gly Arg Tyr Tyr Glu Glu Phe Pro Ile Asn Leu Lys Thr Gly Glu
                165                 170                 175

Ala Asn Leu Thr Gln Ile Tyr Leu Gln Glu Ala Leu Asp Phe Ile Lys
            180                 185                 190

Arg Gln Ala Arg His His Pro Phe Phe Leu Tyr Trp Ala Val Asp Ala
        195                 200                 205

Thr His Ala Pro Val Tyr Ala Ser Lys Pro Phe Leu Gly Thr Ser Gln
    210                 215                 220

Arg Gly Arg Tyr Gly Asp Ala Val Arg Glu Ile Asp Asp Ser Ile Gly
225                 230                 235                 240

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

Val Phe Phe Thr Ser Asp Asn Gly Ala Ala Leu Ile Ser Ala Pro Glu
            260                 265                 270

Gln Gly Gly Ser Asn Gly Pro Phe Leu Cys Gly Lys Gln Thr Thr Phe
        275                 280                 285

Glu Gly Gly Met Arg Glu Pro Ala Leu Ala Trp Trp Pro Gly His Val
    290                 295                 300

Thr Ala Gly Gln Val Ser His Gln Leu Gly Ser Ile Met Asp Leu Phe
305                 310                 315                 320

Thr Thr Ser Leu Ala Leu Ala Gly Leu Thr Pro Pro Ser Asp Arg Ala
                325                 330                 335

Ile Asp Gly Leu Asn Leu Leu Pro Thr Leu Leu Gln Gly Arg Leu Met
```

```
            340                 345                 350

Asp Arg Pro Ile Phe Tyr Tyr Arg Gly Asp Thr Leu Met Ala Ala Thr
        355                 360                 365

Leu Gly Gln His Lys Ala His Phe Trp Thr Trp Thr Asn Ser Trp Glu
    370                 375                 380

Asn Phe Arg Gln Gly Ile Asp Phe Cys Pro Gly Gln Asn Val Ser Gly
385                 390                 395                 400

Val Thr Thr His Asn Leu Glu Asp His Thr Lys Leu Pro Leu Ile Phe
                405                 410                 415

His Leu Gly Arg Asp Pro Gly Glu Arg Phe Pro Leu Ser Phe Ala Ser
            420                 425                 430

Ala Glu Tyr Gln Glu Ala Leu Ser Arg Ile Thr Ser Val Val Gln Gln
        435                 440                 445

His Gln Glu Ala Leu Val Pro Ala Gln Pro Gln Leu Asn Val Cys Asn
    450                 455                 460

Trp Ala Val Met Asn Trp Ala Pro Pro Gly Cys Glu Lys Leu Gly Lys
465                 470                 475                 480

Cys Leu Thr Pro Pro Glu Ser Ile Pro Lys Lys Cys Leu Trp Ser His
                485                 490                 495
```

<210> 38
<211> 626
<212> PRT
<213> HOMO SAPIENS

<400> 38

```
Ala Pro His Leu Val His Val Asp Ala Ala Arg Ala Leu Trp Pro Leu
1               5                   10                  15
```

```
Arg Arg Phe Trp Arg Ser Thr Gly Phe Cys Pro Pro Leu Pro His Ser
            20                  25                  30

Gln Ala Asp Gln Tyr Val Leu Ser Trp Asp Gln Gln Leu Asn Leu Ala
        35                  40                  45

Tyr Val Gly Ala Val Pro His Arg Gly Ile Lys Gln Val Arg Thr His
    50                  55                  60

Trp Leu Leu Glu Leu Val Thr Thr Arg Gly Ser Thr Gly Arg Gly Leu
65                  70                  75                  80

Ser Tyr Asn Phe Thr His Leu Asp Gly Tyr Leu Asp Leu Leu Arg Glu
                85                  90                  95

Asn Gln Leu Leu Pro Gly Phe Glu Leu Met Gly Ser Ala Ser Gly His
            100                 105                 110

Phe Thr Asp Phe Glu Asp Lys Gln Gln Val Phe Glu Trp Lys Asp Leu
        115                 120                 125

Val Ser Ser Leu Ala Arg Arg Tyr Ile Gly Arg Tyr Gly Leu Ala His
    130                 135                 140

Val Ser Lys Trp Asn Phe Glu Thr Trp Asn Glu Pro Asp His His Asp
145                 150                 155                 160

Phe Asp Asn Val Ser Met Thr Met Gln Gly Phe Leu Asn Tyr Tyr Asp
                165                 170                 175

Ala Cys Ser Glu Gly Leu Arg Ala Ala Ser Pro Ala Leu Arg Leu Gly
            180                 185                 190

Gly Pro Gly Asp Ser Phe His Thr Pro Pro Arg Ser Pro Leu Ser Trp
        195                 200                 205
```

```
Gly Leu Leu Arg His Cys His Asp Gly Thr Asn Phe Phe Thr Gly Glu
    210                 215                 220

Ala Gly Val Arg Leu Asp Tyr Ile Ser Leu His Arg Lys Gly Ala Arg
225                 230                 235                 240

Ser Ser Ile Ser Ile Leu Glu Gln Glu Lys Val Val Ala Gln Gln Ile
                245                 250                 255

Arg Gln Leu Phe Pro Lys Phe Ala Asp Thr Pro Ile Tyr Asn Asp Glu
            260                 265                 270

Ala Asp Pro Leu Val Gly Trp Ser Leu Pro Gln Pro Trp Arg Ala Asp
        275                 280                 285

Val Thr Tyr Ala Ala Met Val Val Lys Val Ile Ala Gln His Gln Asn
    290                 295                 300

Leu Leu Leu Ala Asn Thr Thr Ser Ala Phe Pro Tyr Ala Leu Leu Ser
305                 310                 315                 320

Asn Asp Asn Ala Phe Leu Ser Tyr His Pro His Pro Phe Ala Gln Arg
                325                 330                 335

Thr Leu Thr Ala Arg Phe Gln Val Asn Asn Thr Arg Pro Pro His Val
            340                 345                 350

Gln Leu Leu Arg Lys Pro Val Leu Thr Ala Met Gly Leu Leu Ala Leu
        355                 360                 365

Leu Asp Glu Glu Gln Leu Trp Ala Glu Val Ser Gln Ala Gly Thr Val
    370                 375                 380

Leu Asp Ser Asn His Thr Val Gly Val Leu Ala Ser Ala His Arg Pro
385                 390                 395                 400
```

```
Gln Gly Pro Ala Asp Ala Trp Arg Ala Ala Val Leu Ile Tyr Ala Ser
                405                 410                 415

Asp Asp Thr Arg Ala His Pro Asn Arg Ser Val Ala Val Thr Leu Arg
            420                 425                 430

Leu Arg Gly Val Pro Pro Gly Pro Gly Leu Val Tyr Val Thr Arg Tyr
        435                 440                 445

Leu Asp Asn Gly Leu Cys Ser Pro Asp Gly Glu Trp Arg Arg Leu Gly
    450                 455                 460

Arg Pro Val Phe Pro Thr Ala Glu Gln Phe Arg Arg Met Arg Ala Ala
465                 470                 475                 480

Glu Asp Pro Val Ala Ala Ala Pro Arg Pro Leu Pro Ala Gly Gly Arg
                485                 490                 495

Leu Thr Leu Arg Pro Ala Leu Arg Leu Pro Ser Leu Leu Leu Val His
            500                 505                 510

Val Cys Ala Arg Pro Glu Lys Pro Pro Gly Gln Val Thr Arg Leu Arg
        515                 520                 525

Ala Leu Pro Leu Thr Gln Gly Gln Leu Val Leu Val Trp Ser Asp Glu
    530                 535                 540

His Val Gly Ser Lys Cys Leu Trp Thr Tyr Glu Ile Gln Phe Ser Gln
545                 550                 555                 560

Asp Gly Lys Ala Tyr Thr Pro Val Ser Arg Lys Pro Ser Thr Phe Asn
                565                 570                 575

Leu Phe Val Phe Ser Pro Asp Thr Gly Ala Val Ser Gly Ser Tyr Arg
            580                 585                 590
```

```
Val Arg Ala Leu Asp Tyr Trp Ala Arg Pro Gly Pro Phe Ser Asp Pro
        595                 600                 605


Val Pro Tyr Leu Glu Val Pro Val Pro Arg Gly Pro Pro Ser Pro Gly
    610                 615                 620


Asn Pro
625
```

<210> 39
<211> 376
<212> PRT
<213> HOMO SAPIENS

<400> 39

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


Ile Ile Ser Tyr Trp Gly Phe Pro Ser Glu Glu Tyr Leu Val Glu Thr
            20                  25                  30


Glu Asp Gly Tyr Ile Leu Cys Leu Asn Arg Ile Pro His Gly Arg Lys
        35                  40                  45


Asn His Ser Asp Lys Gly Pro Lys Pro Val Val Phe Leu Gln His Gly
    50                  55                  60


Leu Leu Ala Asp Ser Ser Asn Trp Val Thr Asn Leu Ala Asn Ser Ser
65                  70                  75                  80


Leu Gly Phe Ile Leu Ala Asp Ala Gly Phe Asp Val Trp Met Gly Asn
                85                  90                  95


Ser Arg Gly Asn Thr Trp Ser Arg Lys His Lys Thr Leu Ser Val Ser
            100                 105                 110
```

```
Gln Asp Glu Phe Trp Ala Phe Ser Tyr Asp Glu Met Ala Lys Tyr Asp
        115                 120                 125

Leu Pro Ala Ser Ile Asn Phe Ile Leu Asn Lys Thr Gly Gln Glu Gln
    130                 135                 140

Val Tyr Tyr Val Gly His Ser Gln Gly Thr Thr Ile Gly Phe Ile Ala
145                 150                 155                 160

Phe Ser Gln Ile Pro Glu Leu Ala Lys Arg Ile Lys Met Phe Phe Ala
                165                 170                 175

Leu Gly Pro Val Ala Ser Val Ala Phe Cys Thr Ser Pro Met Ala Lys
            180                 185                 190

Leu Gly Arg Leu Pro Asp His Leu Ile Lys Asp Leu Phe Gly Asp Lys
        195                 200                 205

Glu Phe Leu Pro Gln Ser Ala Phe Leu Lys Trp Leu Gly Thr His Val
    210                 215                 220

Cys Thr His Val Ile Leu Lys Glu Leu Cys Gly Asn Leu Cys Phe Leu
225                 230                 235                 240

Leu Cys Gly Phe Asn Glu Arg Asn Leu Asn Met Ser Arg Val Asp Val
                245                 250                 255

Tyr Thr Thr His Ser Pro Ala Gly Thr Ser Val Gln Asn Met Leu His
            260                 265                 270

Trp Ser Gln Ala Val Lys Phe Gln Lys Phe Gln Ala Phe Asp Trp Gly
        275                 280                 285

Ser Ser Ala Lys Asn Tyr Phe His Tyr Asn Gln Ser Tyr Pro Pro Thr
    290                 295                 300
```

```
Tyr Asn Val Lys Asp Met Leu Val Pro Thr Ala Val Trp Ser Gly Gly
305                 310                 315                 320


His Asp Trp Leu Ala Asp Val Tyr Asp Val Asn Ile Leu Leu Thr Gln
                325                 330                 335


Ile Thr Asn Leu Val Phe His Glu Ser Ile Pro Glu Trp Glu His Leu
            340                 345                 350


Asp Phe Ile Trp Gly Leu Asp Ala Pro Trp Arg Leu Tyr Asn Lys Ile
        355                 360                 365


Ile Asn Leu Met Arg Lys Tyr Gln
    370                 375


<210>  40
<211>  475
<212>  PRT
<213>  HOMO SAPIENS

<400>  40

Leu Arg Pro Ala Leu Arg Ala Leu Gly Ser Leu His Leu Pro Thr Asn
1               5                   10                  15


Pro Thr Ser Leu Pro Ala Val Ala Lys Asn Tyr Ser Val Leu Tyr Phe
            20                  25                  30


Gln Gln Lys Val Asp His Phe Gly Phe Asn Thr Val Lys Thr Phe Asn
        35                  40                  45


Gln Arg Tyr Leu Val Ala Asp Lys Tyr Trp Lys Lys Asn Gly Gly Ser
    50                  55                  60


Ile Leu Phe Tyr Thr Gly Asn Glu Gly Asp Ile Ile Trp Phe Cys Asn
65                  70                  75                  80
```

```
Asn Thr Gly Phe Met Trp Asp Val Ala Glu Glu Leu Lys Ala Met Leu
                85                  90                  95

Val Phe Ala Glu His Arg Tyr Tyr Gly Glu Ser Leu Pro Phe Gly Asp
            100                 105                 110

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

Ala Leu Ala Asp Phe Ala Glu Leu Ile Lys His Leu Lys Arg Thr Ile
    130                 135                 140

Pro Gly Ala Glu Asn Gln Pro Val Ile Ala Ile Gly Gly Ser Tyr Gly
145                 150                 155                 160

Gly Met Leu Ala Ala Trp Phe Arg Met Lys Tyr Pro His Met Val Val
                165                 170                 175

Gly Ala Leu Ala Ala Ser Ala Pro Ile Trp Gln Phe Glu Asp Leu Val
            180                 185                 190

Pro Cys Gly Val Phe Met Lys Ile Val Thr Thr Asp Phe Arg Lys Ser
        195                 200                 205

Gly Pro His Cys Ser Glu Ser Ile His Arg Ser Trp Asp Ala Ile Asn
    210                 215                 220

Arg Leu Ser Asn Thr Gly Ser Gly Leu Gln Trp Leu Thr Gly Ala Leu
225                 230                 235                 240

His Leu Cys Ser Pro Leu Thr Ser Gln Asp Ile Gln His Leu Lys Asp
                245                 250                 255

Trp Ile Ser Glu Thr Trp Val Asn Leu Ala Met Val Asp Tyr Pro Tyr
            260                 265                 270
```

```
Ala Ser Asn Phe Leu Gln Pro Leu Pro Ala Trp Pro Ile Lys Val Val
        275                 280                 285

Cys Gln Tyr Leu Lys Asn Pro Asn Val Ser Asp Ser Leu Leu Leu Gln
    290                 295                 300

Asn Ile Phe Gln Ala Leu Asn Val Tyr Tyr Asn Tyr Ser Gly Gln Val
305                 310                 315                 320

Lys Cys Leu Asn Ile Ser Glu Thr Ala Thr Ser Ser Leu Gly Thr Leu
                325                 330                 335

Gly Trp Ser Tyr Gln Ala Cys Thr Glu Val Val Met Pro Phe Cys Thr
            340                 345                 350

Asn Gly Val Asp Asp Met Phe Glu Pro His Ser Trp Asn Leu Lys Glu
        355                 360                 365

Leu Ser Asp Asp Cys Phe Gln Gln Trp Gly Val Arg Pro Arg Pro Ser
    370                 375                 380

Trp Ile Thr Thr Met Tyr Gly Gly Lys Asn Ile Ser Ser His Thr Asn
385                 390                 395                 400

Ile Val Phe Ser Asn Gly Glu Leu Asp Pro Trp Ser Gly Gly Gly Val
                405                 410                 415

Thr Lys Asp Ile Thr Asp Thr Leu Val Ala Val Thr Ile Ser Glu Gly
            420                 425                 430

Ala His His Leu Asp Leu Arg Thr Lys Asn Ala Leu Asp Pro Met Ser
        435                 440                 445

Val Leu Leu Ala Arg Ser Leu Glu Val Arg His Met Lys Asn Trp Ile
    450                 455                 460
```

```
Arg Asp Phe Tyr Asp Ser Ala Gly Lys Gln His
465                 470                 475


<210>  41
<211>  298
<212>  PRT
<213>  HOMO SAPIENS

<400>  41

Asp Ser Arg Ala Pro Phe Thr Pro Thr Trp Pro Arg Ser Arg Glu Arg
1               5                   10                  15


Glu Ala Ala Ala Phe Arg Glu Ser Leu Asn Arg His Arg Tyr Leu Asn
            20                  25                  30


Ser Leu Phe Pro Ser Glu Asn Ser Thr Ala Phe Tyr Gly Ile Asn Gln
        35                  40                  45


Phe Ser Tyr Leu Phe Pro Glu Glu Phe Lys Ala Ile Tyr Leu Arg Ser
    50                  55                  60


Lys Pro Ser Lys Phe Pro Arg Tyr Ser Ala Glu Val His Met Ser Ile
65                  70                  75                  80


Pro Asn Val Ser Leu Pro Leu Arg Phe Asp Trp Arg Asp Lys Gln Val
                85                  90                  95


Val Thr Gln Val Arg Asn Gln Gln Met Cys Gly Gly Cys Trp Ala Phe
            100                 105                 110


Ser Val Val Gly Ala Val Glu Ser Ala Tyr Ala Ile Lys Gly Lys Pro
        115                 120                 125


Leu Glu Asp Leu Ser Val Gln Gln Val Ile Asp Cys Ser Tyr Asn Asn
    130                 135                 140


Tyr Gly Cys Asn Gly Gly Ser Thr Leu Asn Ala Leu Asn Trp Leu Asn
```

```
145                 150                 155                 160

Lys Met Gln Val Lys Leu Val Lys Asp Ser Glu Tyr Pro Phe Lys Ala
                165                 170                 175

Gln Asn Gly Leu Cys His Tyr Phe Ser Gly Ser His Ser Gly Phe Ser
            180                 185                 190

Ile Lys Gly Tyr Ser Ala Tyr Asp Phe Ser Asp Gln Glu Asp Glu Met
        195                 200                 205

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

Val Ser Trp Gln Asp Tyr Leu Gly Gly Ile Ile Gln His His Cys Ser
225                 230                 235                 240

Ser Gly Glu Ala Asn His Ala Val Leu Ile Thr Gly Phe Asp Lys Thr
                245                 250                 255

Gly Ser Thr Pro Tyr Trp Ile Val Arg Asn Ser Trp Gly Ser Ser Trp
            260                 265                 270

Gly Val Asp Gly Tyr Ala His Val Lys Met Gly Ser Asn Val Cys Gly
        275                 280                 285

Ile Ala Asp Ser Val Ser Ser Ile Phe Val
    290                 295
```

<210> 42
<211> 314
<212> PRT
<213> HOMO SAPIENS

<400> 42

```
Leu Tyr Pro Glu Glu Ile Leu Asp Thr His Trp Glu Leu Trp Lys Lys
1               5                   10                  15
```

```
Thr His Arg Lys Gln Tyr Asn Asn Lys Val Asp Glu Ile Ser Arg Arg
            20                  25                  30

Leu Ile Trp Glu Lys Asn Leu Lys Tyr Ile Ser Ile His Asn Leu Glu
        35                  40                  45

Ala Ser Leu Gly Val His Thr Tyr Glu Leu Ala Met Asn His Leu Gly
    50                  55                  60

Asp Met Thr Ser Glu Glu Val Val Gln Lys Met Thr Gly Leu Lys Val
65                  70                  75                  80

Pro Leu Ser His Ser Arg Ser Asn Asp Thr Leu Tyr Ile Pro Glu Trp
                85                  90                  95

Glu Gly Arg Ala Pro Asp Ser Val Asp Tyr Arg Lys Lys Gly Tyr Val
            100                 105                 110

Thr Pro Val Lys Asn Gln Gly Gln Cys Gly Ser Cys Trp Ala Phe Ser
        115                 120                 125

Ser Val Gly Ala Leu Glu Gly Gln Leu Lys Lys Lys Thr Gly Lys Leu
    130                 135                 140

Leu Asn Leu Ser Pro Gln Asn Leu Val Asp Cys Val Ser Glu Asn Asp
145                 150                 155                 160

Gly Cys Gly Gly Gly Tyr Met Thr Asn Ala Phe Gln Tyr Val Gln Lys
                165                 170                 175

Asn Arg Gly Ile Asp Ser Glu Asp Ala Tyr Pro Tyr Val Gly Gln Glu
            180                 185                 190

Glu Ser Cys Met Tyr Asn Pro Thr Gly Lys Ala Ala Lys Cys Arg Gly
        195                 200                 205
```

```
Tyr Arg Glu Ile Pro Glu Gly Asn Glu Lys Ala Leu Lys Arg Ala Val
    210                 215                 220

Ala Arg Val Gly Pro Val Ser Val Ala Ile Asp Ala Ser Leu Thr Ser
225                 230                 235                 240

Phe Gln Phe Tyr Ser Lys Gly Val Tyr Tyr Asp Glu Ser Cys Asn Ser
                245                 250                 255

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

Gly Asn Lys His Trp Ile Ile Lys Asn Ser Trp Gly Glu Asn Trp Gly
        275                 280                 285

Asn Lys Gly Tyr Ile Leu Met Ala Arg Asn Lys Asn Asn Ala Cys Gly
    290                 295                 300

Ile Ala Asn Leu Ala Ser Phe Pro Lys Met
305                 310
```

<210> 43
<211> 279
<212> PRT
<213> HOMO SAPIENS

<400> 43

```
Asp Pro Pro Ala Pro Leu Pro Leu Val Ile Trp His Gly Met Gly Asp
1               5                   10                  15

Ser Cys Cys Asn Pro Leu Ser Met Gly Ala Ile Lys Lys Met Val Glu
            20                  25                  30

Lys Lys Ile Pro Gly Ile Tyr Val Leu Ser Leu Glu Ile Gly Lys Thr
        35                  40                  45
```

```
Leu Met Glu Asp Val Glu Asn Ser Phe Phe Leu Asn Val Asn Ser Gln
    50                  55                  60

Val Thr Thr Val Cys Gln Ala Leu Ala Lys Asp Pro Lys Leu Gln Gln
65                  70                  75                  80

Gly Tyr Asn Ala Met Gly Phe Ser Gln Gly Gly Gln Phe Leu Arg Ala
                85                  90                  95

Val Ala Gln Arg Cys Pro Ser Pro Pro Met Ile Asn Leu Ile Ser Val
            100                 105                 110

Gly Gly Gln His Gln Gly Val Phe Gly Leu Pro Arg Cys Pro Gly Glu
        115                 120                 125

Ser Ser His Ile Cys Asp Phe Ile Arg Lys Thr Leu Asn Ala Gly Ala
    130                 135                 140

Tyr Ser Lys Val Val Gln Glu Arg Leu Val Gln Ala Glu Tyr Trp His
145                 150                 155                 160

Asp Pro Ile Lys Glu Asp Val Tyr Arg Asn His Ser Ile Phe Leu Ala
                165                 170                 175

Asp Ile Asn Gln Glu Arg Gly Ile Asn Glu Ser Tyr Lys Lys Asn Leu
            180                 185                 190

Met Ala Leu Lys Lys Phe Val Met Val Lys Phe Leu Asn Asp Ser Ile
        195                 200                 205

Val Asp Pro Val Asp Ser Glu Trp Phe Gly Phe Tyr Arg Ser Gly Gln
    210                 215                 220

Ala Lys Glu Thr Ile Pro Leu Gln Glu Thr Ser Leu Tyr Thr Gln Asp
225                 230                 235                 240
```

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


Ala Thr Glu Gly Asp His Leu Gln Leu Ser Glu Glu Trp Phe Tyr Ala
            260                 265                 270


His Ile Ile Pro Phe Leu Gly
        275


<210>  44
<211>  482
<212>  PRT
<213>  HOMO SAPIENS

<400>  44

Arg Pro Arg Asn Ala Leu Leu Leu Leu Ala Asp Asp Gly Gly Phe Glu
1               5                   10                  15


Ser Gly Ala Tyr Asn Asn Ser Ala Ile Ala Thr Pro His Leu Asp Ala
            20                  25                  30


Leu Ala Arg Arg Ser Leu Leu Phe Arg Asn Ala Phe Thr Ser Val Ser
        35                  40                  45


Ser Cys Ser Pro Ser Arg Ala Ser Leu Leu Thr Gly Leu Pro Gln His
    50                  55                  60


Gln Asn Gly Met Tyr Gly Leu His Gln Asp Val His His Phe Asn Ser
65                  70                  75                  80


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


Arg Thr Gly Ile Ile Gly Lys Lys His Val Gly Pro Glu Thr Val Tyr
            100                 105                 110
```

```
Pro Phe Asp Phe Ala Tyr Thr Glu Glu Asn Gly Ser Val Leu Gln Val
        115                 120                 125


Gly Arg Asn Ile Thr Arg Ile Lys Leu Leu Val Arg Lys Phe Leu Gln
    130                 135                 140


Thr Gln Asp Asp Arg Pro Phe Phe Leu Tyr Val Ala Phe His Asp Pro
145                 150                 155                 160


His Arg Cys Gly His Ser Gln Pro Gln Tyr Gly Thr Phe Cys Glu Lys
                165                 170                 175


Phe Gly Asn Gly Glu Ser Gly Met Gly Arg Ile Pro Asp Trp Thr Pro
            180                 185                 190


Gln Ala Tyr Asp Pro Leu Asp Val Leu Val Pro Tyr Phe Val Pro Asn
        195                 200                 205


Thr Pro Ala Ala Arg Ala Asp Leu Ala Ala Gln Tyr Thr Thr Val Gly
    210                 215                 220


Arg Met Asp Gln Gly Val Gly Leu Val Leu Gln Glu Leu Arg Asp Ala
225                 230                 235                 240


Gly Val Leu Asn Asp Thr Leu Val Ile Phe Thr Ser Asp Asn Gly Ile
                245                 250                 255


Pro Phe Pro Ser Gly Arg Thr Asn Leu Tyr Trp Pro Gly Thr Ala Glu
            260                 265                 270


Pro Leu Leu Val Ser Ser Pro Glu His Pro Lys Arg Trp Gly Gln Val
        275                 280                 285


Ser Glu Ala Tyr Val Ser Leu Leu Asp Leu Thr Pro Thr Ile Leu Asp
    290                 295                 300
```

```
Trp Phe Ser Ile Pro Tyr Pro Ser Tyr Ala Ile Phe Gly Ser Lys Thr
305                 310                 315                 320


Ile His Leu Thr Gly Arg Ser Leu Leu Pro Ala Leu Glu Ala Glu Pro
                325                 330                 335


Leu Trp Ala Thr Val Phe Gly Ser Gln Ser His His Glu Val Thr Met
            340                 345                 350


Ser Tyr Pro Met Arg Ser Val Gln His Arg His Phe Arg Leu Val His
        355                 360                 365


Asn Leu Asn Phe Lys Met Pro Phe Pro Ile Asp Gln Asp Phe Tyr Val
    370                 375                 380


Ser Pro Thr Phe Gln Asp Leu Leu Asn Arg Thr Thr Ala Gly Gln Pro
385                 390                 395                 400


Thr Gly Trp Tyr Lys Asp Leu Arg His Tyr Tyr Tyr Arg Ala Arg Trp
                405                 410                 415


Glu Leu Tyr Asp Arg Ser Arg Asp Pro His Glu Thr Gln Asn Leu Ala
            420                 425                 430


Thr Asp Pro Arg Phe Ala Gln Leu Leu Glu Met Leu Arg Asp Gln Leu
        435                 440                 445


Ala Lys Trp Gln Trp Glu Thr His Asp Pro Trp Val Cys Ala Pro Asp
    450                 455                 460


Gly Val Leu Glu Glu Lys Leu Ser Pro Gln Cys Gln Pro Leu His Asn
465                 470                 475                 480


Glu Leu
```

<210> 45
<211> 560
<212> PRT
<213> HOMO SAPIENS

<400> 45

```
Lys Thr Ala Asn Ala Phe Lys Pro Asn Ile Leu Leu Ile Met Ala Asp
1               5                   10                  15


Asp Leu Gly Thr Gly Asp Leu Gly Cys Tyr Gly Asn Asn Thr Leu Arg
            20                  25                  30


Thr Pro Asn Ile Asp Gln Leu Ala Glu Glu Gly Val Arg Leu Thr Gln
        35                  40                  45


His Leu Ala Ala Ala Pro Leu Cys Thr Pro Ser Arg Ala Ala Phe Leu
    50                  55                  60


Thr Gly Arg His Ser Phe Arg Ser Gly Met Asp Ala Ser Asn Gly Tyr
65                  70                  75                  80


Arg Ala Leu Gln Trp Asn Ala Gly Ser Gly Gly Leu Pro Glu Asn Glu
                85                  90                  95


Thr Thr Phe Ala Arg Ile Leu Gln Gln His Gly Tyr Ala Thr Gly Leu
            100                 105                 110


Ile Gly Lys Trp His Gln Gly Val Asn Cys Ala Ser Arg Gly Asp His
        115                 120                 125


Cys His His Pro Leu Asn His Gly Phe Asp Tyr Phe Tyr Gly Met Pro
    130                 135                 140


Phe Thr Leu Thr Asn Asp Cys Asp Pro Gly Arg Pro Pro Glu Val Asp
145                 150                 155                 160


Ala Ala Leu Arg Ala Gln Leu Trp Gly Tyr Thr Gln Phe Leu Ala Leu
```

```
                165                 170                 175

Gly Ile Leu Thr Leu Ala Ala Gly Gln Thr Cys Gly Phe Phe Ser Val
            180                 185                 190

Ser Ala Arg Ala Val Thr Gly Met Ala Gly Val Gly Cys Leu Phe Phe
        195                 200                 205

Ile Ser Trp Tyr Ser Ser Phe Gly Phe Val Arg Arg Trp Asn Cys Ile
    210                 215                 220

Leu Met Arg Asn His Asp Val Thr Glu Gln Pro Met Val Leu Glu Lys
225                 230                 235                 240

Thr Ala Ser Leu Met Leu Lys Glu Ala Val Ser Tyr Ile Glu Arg His
                245                 250                 255

Lys His Gly Pro Phe Leu Leu Phe Leu Ser Leu Leu His Val His Ile
            260                 265                 270

Pro Leu Val Thr Thr Ser Ala Phe Leu Gly Lys Ser Gln His Gly Leu
        275                 280                 285

Tyr Gly Asp Asn Val Glu Glu Met Asp Trp Leu Ile Gly Lys Val Leu
    290                 295                 300

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

Thr Ser Asp His Gly Gly His Leu Glu Ala Arg Asp Gly His Ser Gln
                325                 330                 335

Leu Gly Gly Trp Asn Gly Ile Tyr Lys Gly Gly Lys Gly Met Gly Gly
            340                 345                 350

Trp Glu Gly Gly Ile Arg Val Pro Gly Ile Phe His Trp Pro Gly Val
```

```
        355                 360                 365

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

Phe Pro Thr Val Val Gln Leu Val Gly Gly Glu Val Pro Gln Asp Arg
385                 390                 395                 400

Val Ile Asp Gly His Ser Leu Val Pro Leu Leu Gln Gly Ala Glu Ala
                405                 410                 415

Arg Ser Ala His Glu Phe Leu Phe His Tyr Cys Gly Gln His Leu His
            420                 425                 430

Ala Ala Arg Trp His Gln Lys Asp Ser Gly Ser Val Trp Lys Val His
        435                 440                 445

Tyr Thr Thr Pro Gln Phe His Pro Glu Gly Ala Gly Ala Cys Tyr Gly
    450                 455                 460

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

Pro Leu Leu Phe Asp Leu Ser Arg Asp Pro Ser Glu Ala Arg Pro Leu
                485                 490                 495

Thr Pro Asp Ser Glu Pro Leu Tyr His Ala Val Ile Ala Arg Val Gly
            500                 505                 510

Ala Ala Val Ser Glu His Arg Gln Thr Leu Ser Pro Val Pro Gln Gln
        515                 520                 525

Phe Ser Met Ser Asn Ile Leu Trp Lys Pro Trp Leu Gln Pro Cys Cys
    530                 535                 540

Gly His Phe Pro Phe Cys Ser Cys His Glu Asp Gly Asp Gly Thr Pro
```

545 550 555 560

<210> 46
<211> 439
<212> PRT
<213> HOMO SAPIENS

<400> 46

Asp Thr Pro Ala Asn Cys Thr Tyr Leu Asp Leu Leu Gly Thr Trp Val
1 5 10 15

Phe Gln Val Gly Ser Ser Gly Ser Gln Arg Asp Val Asn Cys Ser Val
20 25 30

Met Gly Pro Gln Glu Lys Lys Val Val Val Tyr Leu Gln Lys Leu Asp
35 40 45

Thr Ala Tyr Asp Asp Leu Gly Asn Ser Gly His Phe Thr Ile Ile Tyr
50 55 60

Asn Gln Gly Phe Glu Ile Val Leu Asn Asp Tyr Lys Trp Phe Ala Phe
65 70 75 80

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

Thr Met Thr Gly Trp Val His Asp Val Leu Gly Arg Asn Trp Ala Cys
100 105 110

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

Ile Ala His Leu Lys Asn Ser Gln Glu Lys Tyr Ser Asn Arg Leu Tyr
130 135 140

Lys Tyr Asp His Asn Phe Val Lys Ala Ile Asn Ala Ile Gln Lys Ser
145 150 155 160

```
Trp Thr Ala Thr Thr Tyr Met Glu Tyr Glu Thr Leu Thr Leu Gly Asp
                165                 170                 175

Met Ile Arg Arg Ser Gly Gly His Ser Arg Lys Ile Pro Arg Pro Lys
            180                 185                 190

Pro Ala Pro Leu Thr Ala Glu Ile Gln Gln Lys Ile Leu His Leu Pro
        195                 200                 205

Thr Ser Trp Asp Trp Arg Asn Val His Gly Ile Asn Phe Val Ser Pro
    210                 215                 220

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

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

Pro Ile Leu Ser Pro Gln Glu Val Val Ser Cys Ser Gln Tyr Ala Gln
            260                 265                 270

Gly Cys Glu Gly Gly Phe Pro Tyr Leu Ile Ala Gly Lys Tyr Ala Gln
        275                 280                 285

Asp Phe Gly Leu Val Glu Glu Ala Cys Phe Pro Tyr Thr Gly Thr Asp
    290                 295                 300

Ser Pro Cys Lys Met Lys Glu Asp Cys Phe Arg Tyr Tyr Ser Ser Glu
305                 310                 315                 320

Tyr His Tyr Val Gly Gly Phe Tyr Gly Gly Cys Asn Glu Ala Leu Met
                325                 330                 335

Lys Leu Glu Leu Val His His Gly Pro Met Ala Val Ala Phe Glu Val
            340                 345                 350
```

```
Tyr Asp Asp Phe Leu His Tyr Lys Lys Gly Ile Tyr His His Thr Gly
        355                 360                 365

Leu Arg Asp Pro Phe Asn Pro Phe Glu Leu Thr Asn His Ala Val Leu
    370                 375                 380

Leu Val Gly Tyr Gly Thr Asp Ser Ala Ser Gly Met Asp Tyr Trp Ile
385                 390                 395                 400

Val Lys Asn Ser Trp Gly Thr Gly Trp Gly Glu Asn Gly Tyr Phe Arg
                405                 410                 415

Ile Arg Arg Gly Thr Asp Glu Cys Ala Ile Glu Ser Ile Ala Val Ala
            420                 425                 430

Ala Thr Pro Ile Pro Lys Leu
        435


<210>  47
<211>  720
<212>  PRT
<213>  HOMO SAPIENS

<400>  47

Asp Glu Ala Arg Glu Ala Ala Ala Val Arg Ala Leu Val Ala Arg Leu
1               5                   10                  15

Leu Gly Pro Gly Pro Ala Ala Asp Phe Ser Val Ser Val Glu Arg Ala
            20                  25                  30

Leu Ala Ala Lys Pro Gly Leu Asp Thr Tyr Ser Leu Gly Gly Gly Gly
        35                  40                  45

Ala Ala Arg Val Arg Val Arg Gly Ser Thr Gly Val Ala Ala Ala Ala
    50                  55                  60
```

```
Gly Leu His Arg Tyr Leu Arg Asp Phe Cys Gly Cys His Val Ala Trp
65                  70                  75                  80

Ser Gly Ser Gln Leu Arg Leu Pro Arg Pro Leu Pro Ala Val Pro Gly
                85                  90                  95

Glu Leu Thr Glu Ala Thr Pro Asn Arg Tyr Arg Tyr Tyr Gln Asn Val
            100                 105                 110

Cys Thr Gln Ser Tyr Ser Phe Val Trp Trp Asp Trp Ala Arg Trp Glu
        115                 120                 125

Arg Glu Ile Asp Trp Met Ala Leu Asn Gly Ile Asn Leu Ala Leu Ala
    130                 135                 140

Trp Ser Gly Gln Glu Ala Ile Trp Gln Arg Val Tyr Leu Ala Leu Gly
145                 150                 155                 160

Leu Thr Gln Ala Glu Ile Asn Glu Phe Phe Thr Gly Pro Ala Phe Leu
                165                 170                 175

Ala Trp Gly Arg Met Gly Asn Leu His Thr Trp Asp Gly Pro Leu Pro
            180                 185                 190

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

Gln Met Arg Ser Phe Gly Met Thr Pro Val Leu Pro Ala Phe Ala Gly
    210                 215                 220

His Val Pro Glu Ala Val Thr Arg Val Phe Pro Gln Val Asn Val Thr
225                 230                 235                 240

Lys Met Gly Ser Trp Gly His Phe Asn Cys Ser Tyr Ser Cys Ser Phe
                245                 250                 255
```

```
Leu Leu Ala Pro Glu Asp Pro Ile Phe Pro Ile Ile Gly Ser Leu Phe
            260                 265                 270

Leu Arg Glu Leu Ile Lys Glu Phe Gly Thr Asp His Ile Tyr Gly Ala
        275                 280                 285

Asp Thr Phe Asn Glu Met Gln Pro Pro Ser Ser Glu Pro Ser Tyr Leu
    290                 295                 300

Ala Ala Ala Thr Thr Ala Val Tyr Glu Ala Met Thr Ala Val Asp Thr
305                 310                 315                 320

Glu Ala Val Trp Leu Leu Gln Gly Trp Leu Phe Gln His Gln Pro Gln
                325                 330                 335

Phe Trp Gly Pro Ala Gln Ile Arg Ala Val Leu Gly Ala Val Pro Arg
            340                 345                 350

Gly Arg Leu Leu Val Leu Asp Leu Phe Ala Glu Ser Gln Pro Val Tyr
        355                 360                 365

Thr Arg Thr Ala Ser Phe Gln Gly Gln Pro Phe Ile Trp Cys Met Leu
    370                 375                 380

His Asn Phe Gly Gly Asn His Gly Leu Phe Gly Ala Leu Glu Ala Val
385                 390                 395                 400

Asn Gly Gly Pro Glu Ala Ala Arg Leu Phe Pro Asn Ser Thr Met Val
                405                 410                 415

Gly Thr Gly Met Ala Pro Glu Gly Ile Ser Gln Asn Glu Val Val Tyr
            420                 425                 430

Ser Leu Met Ala Glu Leu Gly Trp Arg Lys Asp Pro Val Pro Asp Leu
        435                 440                 445
```

```
Ala Ala Trp Val Thr Ser Phe Ala Ala Arg Arg Tyr Gly Val Ser His
    450                 455                 460

Pro Asp Ala Gly Ala Ala Trp Arg Leu Leu Leu Arg Ser Val Tyr Asn
465                 470                 475                 480

Cys Ser Gly Glu Ala Cys Arg Gly His Asn Arg Ser Pro Leu Val Arg
                485                 490                 495

Arg Pro Ser Leu Gln Met Asn Thr Ser Ile Trp Tyr Asn Arg Ser Asp
            500                 505                 510

Val Phe Glu Ala Trp Arg Leu Leu Leu Thr Ser Ala Pro Ser Leu Ala
        515                 520                 525

Thr Ser Pro Ala Phe Arg Tyr Asp Leu Leu Asp Leu Thr Arg Gln Ala
    530                 535                 540

Val Gln Glu Leu Val Ser Leu Tyr Tyr Glu Glu Ala Arg Ser Ala Tyr
545                 550                 555                 560

Leu Ser Lys Glu Leu Ala Ser Leu Leu Arg Ala Gly Gly Val Leu Ala
                565                 570                 575

Tyr Glu Leu Leu Pro Ala Leu Asp Glu Val Leu Ala Ser Asp Ser Arg
            580                 585                 590

Phe Leu Leu Gly Ser Trp Leu Glu Gln Ala Arg Ala Ala Ala Val Ser
        595                 600                 605

Glu Ala Glu Ala Asp Phe Tyr Glu Gln Asn Ser Arg Tyr Gln Leu Thr
    610                 615                 620

Leu Trp Gly Pro Glu Gly Asn Ile Leu Asp Tyr Ala Asn Lys Gln Leu
625                 630                 635                 640
```

```
Ala Gly Leu Val Ala Asn Tyr Tyr Thr Pro Arg Trp Arg Leu Phe Leu
                645                 650                 655


Glu Ala Leu Val Asp Ser Val Ala Gln Gly Ile Pro Phe Gln Gln His
            660                 665                 670


Gln Phe Asp Lys Asn Val Phe Gln Leu Glu Gln Ala Phe Val Leu Ser
        675                 680                 685


Lys Gln Arg Tyr Pro Ser Gln Pro Arg Gly Asp Thr Val Asp Leu Ala
    690                 695                 700


Lys Lys Ile Phe Leu Lys Tyr Tyr Pro Arg Trp Val Ala Gly Ser Trp
705                 710                 715                 720


<210>  48
<211>  643
<212>  PRT
<213>  HOMO SAPIENS

<400>  48

Tyr Val Leu Asp Asp Ser Asp Gly Leu Gly Arg Glu Phe Asp Gly Ile
1               5                   10                  15


Gly Ala Val Ser Gly Gly Gly Ala Thr Ser Arg Leu Leu Val Asn Tyr
            20                  25                  30


Pro Glu Pro Tyr Arg Ser Gln Ile Leu Asp Tyr Leu Phe Lys Pro Asn
        35                  40                  45


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


Gln Thr Thr Asp Gly Thr Glu Pro Ser His Met His Tyr Ala Leu Asp
65                  70                  75                  80
```

```
Glu Asn Tyr Phe Arg Gly Tyr Glu Trp Trp Leu Met Lys Glu Ala Lys
                85                  90                  95

Lys Arg Asn Pro Asn Ile Thr Leu Ile Gly Leu Pro Trp Ser Phe Pro
            100                 105                 110

Gly Trp Leu Gly Lys Gly Phe Asp Trp Pro Tyr Val Asn Leu Gln Leu
        115                 120                 125

Thr Ala Tyr Tyr Val Val Thr Trp Ile Val Gly Ala Lys Arg Tyr His
    130                 135                 140

Asp Leu Asp Ile Asp Tyr Ile Gly Ile Trp Asn Glu Arg Ser Tyr Asn
145                 150                 155                 160

Ala Asn Tyr Ile Lys Ile Leu Arg Lys Met Leu Asn Tyr Gln Gly Leu
                165                 170                 175

Gln Arg Val Lys Ile Ile Ala Ser Asp Asn Leu Trp Glu Ser Ile Ser
            180                 185                 190

Ala Ser Met Leu Leu Asp Ala Glu Leu Phe Lys Val Val Asp Val Ile
        195                 200                 205

Gly Ala His Tyr Pro Gly Thr His Ser Ala Lys Asp Ala Lys Leu Thr
    210                 215                 220

Gly Lys Lys Leu Trp Ser Ser Glu Asp Phe Ser Thr Leu Asn Ser Asp
225                 230                 235                 240

Met Gly Ala Gly Cys Trp Gly Arg Ile Leu Asn Gln Asn Tyr Ile Asn
                245                 250                 255

Gly Tyr Met Thr Ser Thr Ile Ala Trp Asn Leu Val Ala Ser Tyr Tyr
            260                 265                 270
```

```
Glu Gln Leu Pro Tyr Gly Arg Cys Gly Leu Met Thr Ala Gln Glu Pro
        275                 280                 285

Trp Ser Gly His Tyr Val Val Glu Ser Pro Val Trp Val Ser Ala His
    290                 295                 300

Thr Thr Gln Phe Thr Gln Pro Gly Trp Tyr Tyr Leu Lys Thr Val Gly
305                 310                 315                 320

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

Asn Leu Thr Ile Ile Ile Glu Thr Met Ser His Lys His Ser Lys Cys
            340                 345                 350

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

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

Tyr Thr Lys Leu Gly Lys Thr Ser Glu Arg Phe Leu Phe Lys Gln Leu
385                 390                 395                 400

Asp Ser Leu Trp Leu Leu Asp Ser Asp Gly Ser Phe Thr Leu Ser Leu
                405                 410                 415

His Glu Asp Glu Leu Phe Thr Leu Thr Thr Leu Thr Thr Gly Arg Lys
            420                 425                 430

Gly Ser Tyr Pro Leu Pro Pro Lys Ser Gln Pro Phe Pro Ser Thr Tyr
        435                 440                 445

Lys Asp Asp Phe Asn Val Asp Tyr Pro Phe Phe Ser Glu Ala Pro Asn
    450                 455                 460
```

```
Phe Ala Asp Gln Thr Gly Val Phe Glu Tyr Phe Thr Asn Ile Glu Asp
465                 470                 475                 480


Pro Gly Glu His His Phe Thr Leu Arg Gln Val Leu Asn Gln Arg Pro
                485                 490                 495


Ile Thr Trp Ala Ala Asp Ala Ser Asn Thr Ile Ser Ile Ile Gly Asp
            500                 505                 510


Tyr Asn Trp Thr Asn Leu Thr Ile Lys Cys Asp Val Tyr Ile Glu Thr
        515                 520                 525


Pro Asp Thr Gly Gly Val Phe Ile Ala Gly Arg Val Asn Lys Gly Gly
    530                 535                 540


Ile Leu Ile Arg Ser Ala Arg Gly Ile Phe Phe Trp Ile Phe Ala Asn
545                 550                 555                 560


Gly Ser Tyr Arg Val Thr Gly Asp Leu Ala Gly Trp Ile Ile Tyr Ala
                565                 570                 575


Leu Gly Arg Val Glu Val Thr Ala Lys Lys Trp Tyr Thr Leu Thr Leu
            580                 585                 590


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


Trp Thr Asp Ile Pro Val Asn Phe Pro Lys Asn Gly Trp Ala Ala Ile
    610                 615                 620


Gly Thr His Ser Phe Glu Phe Ala Gln Phe Asp Asn Phe Leu Val Glu
625                 630                 635                 640


Ala Thr Arg
```

<210> 49
<211> 132
<212> PRT
<213> HOMO SAPIENS

<400> 49

```
Glu Pro Val Gln Phe Lys Asp Cys Gly Ser Val Asp Gly Val Ile Lys
1               5                   10                  15


Glu Val Asn Val Ser Pro Cys Pro Thr Gln Pro Cys Gln Leu Ser Lys
            20                  25                  30


Gly Gln Ser Tyr Ser Val Asn Val Thr Phe Thr Ser Asn Ile Gln Ser
        35                  40                  45


Lys Ser Ser Lys Ala Val Val His Gly Ile Leu Met Gly Val Pro Val
    50                  55                  60


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


Pro Ile Gln Lys Asp Lys Thr Tyr Ser Tyr Leu Asn Lys Leu Pro Val
                85                  90                  95


Lys Ser Glu Tyr Pro Ser Ile Lys Leu Val Val Glu Trp Gln Leu Gln
            100                 105                 110


Asp Asp Lys Asn Gln Ser Leu Phe Cys Trp Glu Ile Pro Val Gln Ile
        115                 120                 125


Val Ser His Leu
    130
```

<210> 50
<211> 347
<212> PRT
<213> HOMO SAPIENS

<400> 50

```
Thr Asp Cys Pro Cys Pro Glu Pro Glu Leu Cys Arg Pro Ile Arg His
1               5                  10                  15

His Pro Asp Phe Glu Val Phe Val Phe Asp Val Gly Gln Lys Thr Trp
            20                  25                  30

Lys Ser Tyr Asp Trp Ser Gln Ile Thr Thr Val Ala Thr Phe Gly Lys
        35                  40                  45

Tyr Asp Ser Glu Leu Met Cys Tyr Ala His Ser Lys Gly Ala Arg Val
    50                  55                  60

Val Leu Lys Gly Asp Val Ser Leu Lys Asp Ile Ile Asp Pro Ala Phe
65                  70                  75                  80

Arg Ala Ser Trp Ile Ala Gln Lys Leu Asn Leu Ala Lys Thr Gln Tyr
                85                  90                  95

Met Asp Gly Ile Asn Ile Asp Ile Glu Gln Glu Val Asn Cys Leu Ser
            100                 105                 110

Pro Glu Tyr Asp Ala Leu Thr Ala Leu Val Lys Glu Thr Thr Asp Ser
        115                 120                 125

Phe His Arg Glu Ile Glu Gly Ser Gln Val Thr Phe Asp Val Ala Trp
    130                 135                 140

Ser Pro Lys Asn Ile Asp Arg Arg Cys Tyr Asn Tyr Thr Gly Ile Ala
145                 150                 155                 160

Asp Ala Cys Asp Phe Leu Phe Val Met Ser Tyr Asp Glu Gln Ser Gln
                165                 170                 175

Ile Trp Ser Glu Cys Ile Ala Ala Ala Asn Ala Pro Tyr Asn Gln Thr
            180                 185                 190
```

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

Leu Val Met Gly Val Pro Trp Tyr Gly Tyr Asp Tyr Thr Cys Leu Asn
    210                 215                 220

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

Ala Pro Cys Ser Asp Ala Ala Gly Arg Gln Val Pro Tyr Lys Thr Ile
                245                 250                 255

Met Lys Gln Ile Asn Ser Ser Ile Ser Gly Asn Leu Trp Asp Lys Asp
            260                 265                 270

Gln Arg Ala Pro Tyr Tyr Asn Tyr Lys Asp Pro Ala Gly His Phe His
        275                 280                 285

Gln Val Trp Tyr Asp Asn Pro Gln Ser Ile Ser Leu Lys Ala Thr Tyr
    290                 295                 300

Ile Gln Asn Tyr Arg Leu Arg Gly Ile Gly Met Trp Asn Ala Asn Cys
305                 310                 315                 320

Leu Asp Tyr Ser Gly Asp Ala Val Ala Lys Gln Gln Thr Glu Glu Met
                325                 330                 335

Trp Glu Val Leu Lys Pro Lys Leu Leu Gln Arg
            340                 345
```

<210> 51
<211> 331
<212> PRT
<213> HOMO SAPIENS

<400> 51

```
Ser Pro Pro Ala Ala Pro Arg Phe Asn Val Ser Leu Asp Ser Val Pro
1               5                   10                  15

Glu Leu Arg Trp Leu Pro Val Leu Arg His Tyr Asp Leu Asp Leu Val
            20                  25                  30

Arg Ala Ala Met Ala Gln Val Ile Gly Asp Arg Val Pro Lys Trp Val
        35                  40                  45

His Val Leu Ile Gly Lys Val Val Leu Glu Leu Glu Arg Phe Leu Pro
    50                  55                  60

Gln Pro Phe Thr Gly Glu Ile Arg Gly Met Cys Asp Phe Met Asn Leu
65                  70                  75                  80

Ser Leu Ala Asp Cys Leu Leu Val Asn Leu Ala Tyr Glu Ser Ser Val
                85                  90                  95

Phe Cys Thr Ser Ile Val Ala Gln Asp Ser Arg Gly His Ile Tyr His
            100                 105                 110

Gly Arg Asn Leu Asp Tyr Pro Phe Gly Asn Val Leu Arg Lys Leu Thr
        115                 120                 125

Val Asp Val Gln Phe Leu Lys Asn Gly Gln Ile Ala Phe Thr Gly Thr
    130                 135                 140

Thr Phe Ile Gly Tyr Val Gly Leu Trp Thr Gly Gln Ser Pro His Lys
145                 150                 155                 160

Phe Thr Val Ser Gly Asp Glu Arg Asp Lys Gly Trp Trp Trp Glu Asn
                165                 170                 175

Ala Ile Ala Ala Leu Phe Arg Arg His Ile Pro Val Ser Trp Leu Ile
            180                 185                 190
```

```
Arg Ala Thr Leu Ser Glu Ser Glu Asn Phe Glu Ala Ala Val Gly Lys
        195                 200                 205


Leu Ala Lys Thr Pro Leu Ile Ala Asp Val Tyr Tyr Ile Val Gly Gly
    210                 215                 220


Thr Ser Pro Arg Glu Gly Val Val Ile Thr Arg Asn Arg Asp Gly Pro
225                 230                 235                 240


Ala Asp Ile Trp Pro Leu Asp Pro Leu Asn Gly Ala Trp Phe Arg Val
                245                 250                 255


Glu Thr Asn Tyr Asp His Trp Lys Pro Ala Pro Lys Glu Asp Asp Arg
            260                 265                 270


Arg Thr Ser Ala Ile Lys Ala Leu Asn Ala Thr Gly Gln Ala Asn Leu
        275                 280                 285


Ser Leu Glu Ala Leu Phe Gln Ile Leu Ser Val Val Pro Val Tyr Asn
    290                 295                 300


Asn Phe Thr Ile Tyr Thr Thr Val Met Ser Ala Gly Ser Pro Asp Lys
305                 310                 315                 320


Tyr Met Thr Arg Ile Arg Asn Pro Ser Arg Lys
                325                 330


<210>  52
<211>  414
<212>  PRT
<213>  HOMO SAPIENS

<400>  52

Phe Arg Gly Pro Leu Leu Pro Asn Arg Pro Phe Thr Thr Val Trp Asn
1               5                   10                  15
```

```
Ala Asn Thr Gln Trp Cys Leu Glu Arg His Gly Val Asp Val Asp Val
            20                  25                  30

Ser Val Phe Asp Val Val Ala Asn Pro Gly Gln Thr Phe Arg Gly Pro
        35                  40                  45

Asp Met Thr Ile Phe Tyr Ser Ser Gln Leu Gly Thr Tyr Pro Tyr Tyr
    50                  55                  60

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

Leu Ile Ala His Leu Ala Arg Thr Phe Gln Asp Ile Leu Ala Ala Ile
                85                  90                  95

Pro Ala Pro Asp Phe Ser Gly Leu Ala Val Ile Asp Trp Glu Ala Trp
            100                 105                 110

Arg Pro Arg Trp Ala Phe Asn Trp Asp Thr Lys Asp Ile Tyr Arg Gln
        115                 120                 125

Arg Ser Arg Ala Leu Val Gln Ala Gln His Pro Asp Trp Pro Ala Pro
    130                 135                 140

Gln Val Glu Ala Val Ala Gln Asp Gln Phe Gln Gly Ala Ala Arg Ala
145                 150                 155                 160

Trp Met Ala Gly Thr Leu Gln Leu Gly Arg Ala Leu Arg Pro Arg Gly
                165                 170                 175

Leu Trp Gly Phe Tyr Gly Phe Pro Asp Cys Tyr Asn Tyr Asp Phe Leu
            180                 185                 190

Ser Pro Asn Tyr Thr Gly Gln Cys Pro Ser Gly Ile Arg Ala Gln Asn
        195                 200                 205
```

```
Asp Gln Leu Gly Trp Leu Trp Gly Gln Ser Arg Ala Leu Tyr Pro Ser
    210                 215                 220

Ile Tyr Met Pro Ala Val Leu Glu Gly Thr Gly Lys Ser Gln Met Tyr
225                 230                 235                 240

Val Gln His Arg Val Ala Glu Ala Phe Arg Val Ala Val Ala Ala Gly
                245                 250                 255

Asp Pro Asn Leu Pro Val Leu Pro Tyr Val Gln Ile Phe Tyr Asp Thr
            260                 265                 270

Thr Asn His Phe Leu Pro Leu Asp Glu Leu Glu His Ser Leu Gly Glu
        275                 280                 285

Ser Ala Ala Gln Gly Ala Ala Gly Val Val Leu Trp Val Ser Trp Glu
    290                 295                 300

Asn Thr Arg Thr Lys Glu Ser Cys Gln Ala Ile Lys Glu Tyr Met Asp
305                 310                 315                 320

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

Cys Ser Gln Ala Leu Cys Ser Gly His Gly Arg Cys Val Arg Arg Thr
            340                 345                 350

Ser His Pro Lys Ala Leu Leu Leu Leu Asn Pro Ala Ser Phe Ser Ile
        355                 360                 365

Gln Leu Thr Pro Gly Gly Gly Pro Leu Ser Leu Arg Gly Ala Leu Ser
    370                 375                 380

Leu Glu Asp Gln Ala Gln Met Ala Val Glu Phe Lys Cys Arg Cys Tyr
385                 390                 395                 400
```

```
Pro Gly Trp Gln Ala Pro Trp Cys Glu Arg Lys Ser Met Trp
                405                 410
```

<210> 53
<211> 445
<212> PRT
<213> HOMO SAPIENS

<400> 53

```
Ala Lys Leu Val Cys Tyr Phe Thr Asn Trp Ala Gln Tyr Arg Gln Gly
1               5                   10                  15

Glu Ala Arg Phe Leu Pro Lys Asp Leu Asp Pro Ser Leu Cys Thr His
            20                  25                  30

Leu Ile Tyr Ala Phe Ala Gly Met Thr Asn His Gln Leu Ser Thr Thr
        35                  40                  45

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

Met Asn Pro Lys Leu Lys Thr Leu Leu Ala Ile Gly Gly Trp Asn Phe
65                  70                  75                  80

Gly Thr Gln Lys Phe Thr Asp Met Val Ala Thr Ala Asn Asn Arg Gln
                85                  90                  95

Thr Phe Val Asn Ser Ala Ile Arg Phe Leu Arg Lys Tyr Ser Phe Asp
            100                 105                 110

Gly Leu Asp Leu Asp Trp Glu Tyr Pro Gly Ser Gln Gly Ser Pro Ala
        115                 120                 125

Val Asp Lys Glu Arg Phe Thr Thr Leu Val Gln Asp Leu Ala Asn Ala
    130                 135                 140

Phe Gln Gln Glu Ala Gln Thr Ser Gly Lys Glu Arg Leu Leu Leu Ser
```

```
145                 150                 155                 160

Ala Ala Val Pro Ala Gly Gln Thr Tyr Val Asp Ala Gly Tyr Glu Val
                165                 170                 175

Asp Lys Ile Ala Gln Asn Leu Asp Phe Val Asn Leu Met Ala Tyr Asp
            180                 185                 190

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

Lys Arg Gln Glu Glu Ser Gly Ala Ala Ala Ser Leu Asn Val Asp Ala
    210                 215                 220

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

Leu Gly Met Pro Thr Tyr Gly Arg Ser Phe Thr Leu Ala Ser Ser Ser
                245                 250                 255

Asp Thr Arg Val Gly Ala Pro Ala Thr Gly Ser Gly Thr Pro Gly Pro
            260                 265                 270

Phe Thr Lys Glu Gly Gly Met Leu Ala Tyr Tyr Glu Val Cys Ser Trp
        275                 280                 285

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

Phe Arg Asp Asn Gln Trp Val Gly Phe Asp Asp Val Glu Ser Phe Lys
305                 310                 315                 320

Thr Lys Val Ser Tyr Leu Lys Gln Lys Gly Leu Gly Gly Ala Met Val
                325                 330                 335

Trp Ala Leu Asp Leu Asp Asp Phe Ala Gly Phe Ser Cys Asn Gln Gly
```

340 345 350

Arg Tyr Pro Leu Ile Gln Thr Leu Arg Gln Glu Leu Ser Leu Pro Tyr
355 360 365

Leu Pro Ser Gly Thr Pro Glu Leu Glu Val Pro Lys Pro Gly Gln Pro
370 375 380

Ser Glu Pro Glu His Gly Pro Ser Pro Gly Gln Asp Thr Phe Cys Gln
385 390 395 400

Gly Lys Ala Asp Gly Leu Tyr Pro Asn Pro Arg Glu Arg Ser Ser Phe
405 410 415

Tyr Ser Cys Ala Ala Gly Arg Leu Phe Gln Gln Ser Cys Pro Thr Gly
420 425 430

Leu Val Phe Ser Asn Ser Cys Lys Cys Cys Thr Trp Asn
435 440 445

<210> 54
<211> 374
<212> PRT
<213> HOMO SAPIENS

<400> 54

Gln His Ala Pro Pro Trp Thr Glu Asp Cys Arg Lys Ser Thr Tyr Pro
1 5 10 15

Pro Ser Gly Pro Thr Tyr Arg Gly Ala Val Pro Trp Tyr Thr Ile Asn
20 25 30

Leu Asp Leu Pro Pro Tyr Lys Arg Trp His Glu Leu Met Leu Asp Lys
35 40 45

Ala Pro Val Leu Lys Val Ile Val Asn Ser Leu Lys Asn Met Ile Asn
50 55 60

```
Thr Phe Val Pro Ser Gly Lys Ile Met Gln Val Val Asp Glu Lys Leu
65                  70                  75                  80

Pro Gly Leu Leu Gly Asn Phe Pro Gly Pro Phe Glu Glu Glu Met Lys
                85                  90                  95

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

Asn Ile Phe Tyr Glu Leu Phe Thr Ile Cys Thr Ser Ile Val Ala Glu
        115                 120                 125

Asp Lys Lys Gly His Leu Ile His Gly Arg Asn Met Asp Phe Gly Val
    130                 135                 140

Phe Leu Gly Trp Asn Ile Asn Asn Asp Thr Trp Val Ile Thr Glu Gln
145                 150                 155                 160

Leu Lys Pro Leu Thr Val Asn Leu Asp Phe Gln Arg Asn Asn Lys Thr
                165                 170                 175

Val Phe Lys Ala Ser Ser Phe Ala Gly Tyr Val Gly Met Leu Thr Gly
            180                 185                 190

Phe Lys Pro Gly Leu Phe Ser Leu Thr Leu Asn Glu Arg Phe Ser Ile
        195                 200                 205

Asn Gly Gly Tyr Leu Gly Ile Leu Glu Trp Ile Leu Gly Lys Lys Asp
    210                 215                 220

Val Met Trp Ile Gly Phe Leu Thr Arg Thr Val Leu Glu Asn Ser Thr
225                 230                 235                 240

Ser Tyr Glu Glu Ala Lys Asn Leu Leu Thr Lys Thr Lys Ile Leu Ala
                245                 250                 255
```

```
Pro Ala Tyr Phe Ile Leu Gly Gly Asn Gln Ser Gly Glu Gly Cys Val
            260                 265                 270


Ile Thr Arg Asp Arg Lys Glu Ser Leu Asp Val Tyr Glu Leu Asp Ala
        275                 280                 285


Lys Gln Gly Arg Trp Tyr Val Val Gln Thr Asn Tyr Asp Arg Trp Lys
    290                 295                 300


His Pro Phe Phe Leu Asp Asp Arg Arg Thr Pro Ala Lys Met Cys Leu
305                 310                 315                 320


Asn Arg Thr Ser Gln Glu Asn Ile Ser Phe Glu Thr Met Tyr Asp Val
                325                 330                 335


Leu Ser Thr Lys Pro Val Leu Asn Lys Leu Thr Val Tyr Thr Thr Leu
            340                 345                 350


Ile Asp Val Thr Lys Gly Gln Phe Glu Thr Tyr Leu Arg Asp Cys Pro
        355                 360                 365


Asp Pro Cys Ile Gly Trp
    370


<210>  55
<211>  515
<212>  PRT
<213>  HOMO SAPIENS

<400>  55

Gly Val Tyr Tyr Ala Thr Ala Tyr Trp Met Pro Ala Glu Lys Thr Val
1               5                   10                  15


Gln Val Lys Asn Val Met Asp Lys Asn Gly Asp Ala Tyr Gly Phe Tyr
            20                  25                  30
```

```
Asn Asn Ser Val Lys Thr Thr Gly Trp Gly Ile Leu Glu Ile Arg Ala
        35                  40                  45

Gly Tyr Gly Ser Gln Thr Leu Ser Asn Glu Ile Ile Met Phe Val Ala
    50                  55                  60

Gly Phe Leu Glu Gly Tyr Leu Thr Ala Pro His Met Asn Asp His Tyr
65                  70                  75                  80

Thr Asn Leu Tyr Pro Gln Leu Ile Thr Lys Pro Ser Ile Met Asp Lys
                85                  90                  95

Val Gln Asp Phe Met Glu Lys Gln Asp Lys Trp Thr Arg Lys Asn Ile
            100                 105                 110

Lys Glu Tyr Lys Thr Asp Ser Phe Trp Arg His Thr Gly Tyr Val Met
        115                 120                 125

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

Glu Gly Thr Lys Pro Met Thr Leu Phe Gln Ile Gln Phe Leu Asn Ser
145                 150                 155                 160

Val Gly Asp Leu Leu Asp Leu Ile Pro Ser Leu Ser Pro Thr Lys Asn
                165                 170                 175

Gly Ser Leu Lys Val Phe Lys Arg Trp Asp Met Gly His Cys Ser Ala
            180                 185                 190

Leu Ile Lys Val Leu Pro Gly Phe Glu Asn Ile Leu Phe Ala His Ser
        195                 200                 205

Ser Trp Tyr Thr Tyr Ala Ala Met Leu Arg Ile Tyr Lys His Trp Asp
    210                 215                 220
```

```
Phe Asn Val Ile Asp Lys Asp Thr Ser Ser Ser Arg Leu Ser Phe Ser
225                 230                 235                 240


Ser Tyr Pro Gly Phe Leu Glu Ser Leu Asp Asp Phe Tyr Ile Leu Ser
                245                 250                 255


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


Leu Leu Lys Gln Val Ile Pro Glu Thr Leu Leu Ser Trp Gln Arg Val
        275                 280                 285


Arg Val Ala Asn Met Met Ala Asp Ser Gly Lys Arg Trp Ala Asp Ile
    290                 295                 300


Phe Ser Lys Tyr Asn Ser Gly Thr Tyr Asn Asn Gln Tyr Met Val Leu
305                 310                 315                 320


Asp Leu Lys Lys Val Lys Leu Asn His Ser Leu Asp Lys Gly Thr Leu
                325                 330                 335


Tyr Ile Val Glu Gln Ile Pro Thr Tyr Val Glu Tyr Ser Glu Gln Thr
            340                 345                 350


Asp Val Leu Arg Lys Gly Tyr Trp Pro Ser Tyr Asn Val Pro Phe His
        355                 360                 365


Glu Lys Ile Tyr Asn Trp Ser Gly Tyr Pro Leu Leu Val Gln Lys Leu
    370                 375                 380


Gly Leu Asp Tyr Ser Tyr Asp Leu Ala Pro Arg Ala Lys Ile Phe Arg
385                 390                 395                 400


Arg Asp Gln Gly Lys Val Thr Asp Thr Ala Ser Met Lys Tyr Ile Met
                405                 410                 415
```

```
Arg Tyr Asn Asn Tyr Lys Lys Asp Pro Tyr Ser Arg Gly Asp Pro Cys
            420                 425                 430

Asn Thr Ile Cys Cys Arg Glu Asp Leu Asn Ser Pro Asn Pro Ser Pro
        435                 440                 445

Gly Gly Cys Tyr Asp Thr Lys Val Ala Asp Ile Tyr Leu Ala Ser Gln
    450                 455                 460

Tyr Thr Ser Tyr Ala Ile Ser Gly Pro Thr Val Gln Gly Gly Leu Pro
465                 470                 475                 480

Val Phe Arg Trp Asp Arg Phe Asn Lys Thr Leu His Gln Gly Met Pro
                485                 490                 495

Glu Val Tyr Asn Phe Asp Phe Ile Thr Met Lys Pro Ile Leu Lys Leu
            500                 505                 510

Asp Ile Lys
        515
```

<210> 56
<211> 662
<212> PRT
<213> HOMO SAPIENS

<400> 56

```
Gln Glu Asp Glu Asp Gly Asp Tyr Glu Glu Leu Val Leu Ala Leu Arg
1               5                   10                  15

Ser Glu Glu Asp Gly Leu Ala Glu Ala Pro Glu His Gly Thr Thr Ala
            20                  25                  30

Thr Phe His Arg Cys Ala Lys Asp Pro Trp Arg Leu Pro Gly Thr Tyr
        35                  40                  45
```

```
Val Val Val Leu Lys Glu Glu Thr His Leu Ser Gln Ser Glu Arg Thr
    50                  55                  60

Ala Arg Arg Leu Gln Ala Gln Ala Ala Arg Arg Gly Tyr Leu Thr Lys
65                  70                  75                  80

Ile Leu His Val Phe His Gly Leu Leu Pro Gly Phe Leu Val Lys Met
                85                  90                  95

Ser Gly Asp Leu Leu Glu Leu Ala Leu Lys Leu Pro His Val Asp Tyr
            100                 105                 110

Ile Glu Glu Asp Ser Ser Val Phe Ala Gln Ser Ile Pro Trp Asn Leu
        115                 120                 125

Glu Arg Ile Thr Pro Pro Arg Tyr Arg Ala Asp Glu Tyr Gln Pro Pro
    130                 135                 140

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

Ser Asp His Arg Glu Ile Glu Gly Arg Val Met Val Thr Asp Phe Glu
                165                 170                 175

Asn Val Pro Glu Glu Asp Gly Thr Arg Phe His Arg Gln Ala Ser Lys
            180                 185                 190

Cys Asp Ser His Gly Thr His Leu Ala Gly Val Val Ser Gly Arg Asp
        195                 200                 205

Ala Gly Val Ala Lys Gly Ala Ser Met Arg Ser Leu Arg Val Leu Asn
    210                 215                 220

Cys Gln Gly Lys Gly Thr Val Ser Gly Thr Leu Ile Gly Leu Glu Phe
225                 230                 235                 240
```

```
Ile Arg Lys Ser Gln Leu Val Gln Pro Val Gly Pro Leu Val Val Leu
                245                 250                 255

Leu Pro Leu Ala Gly Gly Tyr Ser Arg Val Leu Asn Ala Ala Cys Gln
            260                 265                 270

Arg Leu Ala Arg Ala Gly Val Val Leu Val Thr Ala Ala Gly Asn Phe
        275                 280                 285

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

Thr Val Gly Ala Thr Asn Ala Gln Asp Gln Pro Val Thr Leu Gly Thr
305                 310                 315                 320

Leu Gly Thr Asn Phe Gly Arg Cys Val Asp Leu Phe Ala Pro Gly Glu
                325                 330                 335

Asp Ile Ile Gly Ala Ser Ser Asp Cys Ser Thr Cys Phe Val Ser Gln
            340                 345                 350

Ser Gly Thr Ser Gln Ala Ala Ala His Val Ala Gly Ile Ala Ala Met
        355                 360                 365

Met Leu Ser Ala Glu Pro Glu Leu Thr Leu Ala Glu Leu Arg Gln Arg
    370                 375                 380

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

Glu Asp Gln Arg Val Leu Thr Pro Asn Leu Val Ala Ala Leu Pro Pro
                405                 410                 415

Ser Thr His Gly Ala Gly Trp Gln Leu Phe Cys Arg Thr Val Trp Ser
            420                 425                 430
```

```
Ala His Ser Gly Pro Thr Arg Met Ala Thr Ala Val Ala Arg Cys Ala
        435                 440                 445

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

Arg Arg Gly Glu Arg Met Glu Ala Gln Gly Gly Lys Leu Val Cys Arg
465                 470                 475                 480

Ala His Asn Ala Phe Gly Gly Glu Gly Val Tyr Ala Ile Ala Arg Cys
                485                 490                 495

Cys Leu Leu Pro Gln Ala Asn Cys Ser Val His Thr Ala Pro Pro Ala
            500                 505                 510

Glu Ala Ser Met Gly Thr Arg Val His Cys His Gln Gln Gly His Val
        515                 520                 525

Leu Thr Gly Cys Ser Ser His Trp Glu Val Glu Asp Leu Gly Thr His
    530                 535                 540

Lys Pro Pro Val Leu Arg Pro Arg Gly Gln Pro Asn Gln Cys Val Gly
545                 550                 555                 560

His Arg Glu Ala Ser Ile His Ala Ser Cys Cys His Ala Pro Gly Leu
                565                 570                 575

Glu Cys Lys Val Lys Glu His Gly Ile Pro Ala Pro Gln Glu Gln Val
            580                 585                 590

Thr Val Ala Cys Glu Glu Gly Trp Thr Leu Thr Gly Cys Ser Ala Leu
        595                 600                 605

Pro Gly Thr Ser His Val Leu Gly Ala Tyr Ala Val Asp Asn Thr Cys
    610                 615                 620
```

```
Val Val Arg Ser Arg Asp Val Ser Thr Thr Gly Ser Thr Ser Glu Gly
625                 630                 635                 640


Ala Val Thr Ala Val Ala Ile Cys Cys Arg Ser Arg His Leu Ala Gln
                645                 650                 655


Ala Ser Gln Glu Leu Gln
            660


<210>  57
<211>  379
<212>  PRT
<213>  HOMO SAPIENS

<400>  57

Ala Gly Arg His Pro Pro Val Val Leu Val Pro Gly Asp Leu Gly Asn
1               5                   10                  15


Gln Leu Glu Ala Lys Leu Asp Lys Pro Thr Val Val His Tyr Leu Cys
            20                  25                  30


Ser Lys Lys Thr Glu Ser Tyr Phe Thr Ile Trp Leu Asn Leu Glu Leu
        35                  40                  45


Leu Leu Pro Val Ile Ile Asp Cys Trp Ile Asp Asn Ile Arg Leu Val
    50                  55                  60


Tyr Asn Lys Thr Ser Arg Ala Thr Gln Phe Pro Asp Gly Val Asp Val
65                  70                  75                  80


Arg Val Pro Gly Phe Gly Lys Thr Phe Ser Leu Glu Phe Leu Asp Pro
                85                  90                  95


Ser Lys Ser Ser Val Gly Ser Tyr Phe His Thr Met Val Glu Ser Leu
            100                 105                 110


Val Gly Trp Gly Tyr Thr Arg Gly Glu Asp Val Arg Gly Ala Pro Tyr
```

```
        115                 120                 125

Asp Trp Arg Arg Ala Pro Asn Glu Asn Gly Pro Tyr Phe Leu Ala Leu
    130                 135                 140

Arg Glu Met Ile Glu Glu Met Tyr Gln Leu Tyr Gly Gly Pro Val Val
145                 150                 155                 160

Leu Val Ala His Ser Met Gly Asn Met Tyr Thr Leu Tyr Phe Leu Gln
                165                 170                 175

Arg Gln Pro Gln Ala Trp Lys Asp Lys Tyr Ile Arg Ala Phe Val Ser
            180                 185                 190

Leu Gly Ala Pro Trp Gly Gly Val Ala Lys Thr Leu Arg Val Leu Ala
        195                 200                 205

Ser Gly Asp Asn Asn Arg Ile Pro Val Ile Gly Pro Leu Lys Ile Arg
    210                 215                 220

Glu Gln Gln Arg Ser Ala Val Ser Thr Ser Trp Leu Leu Pro Tyr Asn
225                 230                 235                 240

Tyr Thr Trp Ser Pro Glu Lys Val Phe Val Gln Thr Pro Thr Ile Asn
                245                 250                 255

Tyr Thr Leu Arg Asp Tyr Arg Lys Phe Phe Gln Asp Ile Gly Phe Glu
            260                 265                 270

Asp Gly Trp Leu Met Arg Gln Asp Thr Glu Gly Leu Val Glu Ala Thr
        275                 280                 285

Met Pro Pro Gly Val Gln Leu His Cys Leu Tyr Gly Thr Gly Val Pro
    290                 295                 300

Thr Pro Asp Ser Phe Tyr Tyr Glu Ser Phe Pro Asp Arg Asp Pro Lys
```

305 310 315 320

Ile Cys Phe Gly Asp Gly Asp Gly Thr Val Asn Leu Lys Ser Ala Leu
325 330 335

Gln Cys Gln Ala Trp Gln Ser Arg Gln Glu His Gln Val Leu Leu Gln
340 345 350

Glu Leu Pro Gly Ser Glu His Ile Glu Met Leu Ala Asn Ala Thr Thr
355 360 365

Leu Ala Tyr Leu Lys Arg Val Leu Leu Gly Pro
370 375

<210> 58
<211> 548
<212> PRT
<213> HOMO SAPIENS

<400> 58

Ile Pro Ala Pro Gly Gly Arg Trp Ala Arg Asp Gly Gln Val Pro Pro
1 5 10 15

Ala Ser Arg Ser Arg Ser Val Leu Leu Asp Val Ser Ala Gly Gln Leu
20 25 30

Leu Met Val Asp Gly Arg His Pro Asp Ala Val Ala Trp Ala Asn Leu
35 40 45

Thr Asn Ala Ile Arg Glu Thr Gly Trp Ala Phe Leu Glu Leu Gly Thr
50 55 60

Ser Gly Gln Tyr Asn Asp Ser Leu Gln Ala Tyr Ala Ala Gly Val Val
65 70 75 80

Glu Ala Ala Val Ser Glu Glu Leu Ile Tyr Met His Trp Met Asn Thr
85 90 95

```
Val Val Asn Tyr Cys Gly Pro Phe Glu Tyr Glu Val Gly Tyr Cys Glu
            100                 105                 110

Arg Leu Lys Ser Phe Leu Glu Ala Asn Leu Glu Trp Met Gln Glu Glu
        115                 120                 125

Met Glu Ser Asn Pro Asp Ser Pro Tyr Trp His Gln Val Arg Leu Thr
    130                 135                 140

Leu Leu Gln Leu Lys Gly Leu Glu Asp Ser Tyr Glu Gly Arg Val Ser
145                 150                 155                 160

Phe Pro Ala Gly Lys Phe Thr Ile Lys Pro Leu Gly Phe Leu Leu Leu
                165                 170                 175

Gln Leu Ser Gly Asp Leu Glu Asp Leu Glu Leu Ala Leu Asn Lys Thr
            180                 185                 190

Lys Ile Lys Pro Ser Leu Gly Ser Gly Ser Cys Ser Ala Leu Ile Lys
        195                 200                 205

Leu Leu Pro Gly Gln Ser Asp Leu Leu Val Ala His Asn Thr Trp Asn
    210                 215                 220

Asn Tyr Gln His Met Leu Arg Val Ile Lys Lys Tyr Trp Leu Gln Phe
225                 230                 235                 240

Arg Glu Gly Pro Trp Gly Asp Tyr Pro Leu Val Pro Gly Asn Lys Leu
                245                 250                 255

Val Phe Ser Ser Tyr Pro Gly Thr Ile Phe Ser Cys Asp Asp Phe Tyr
            260                 265                 270

Ile Leu Gly Ser Gly Leu Val Thr Leu Glu Thr Thr Ile Gly Asn Lys
        275                 280                 285
```

```
Asn Pro Ala Leu Trp Lys Tyr Val Arg Pro Arg Gly Cys Val Leu Glu
    290                 295                 300

Trp Val Arg Asn Ile Val Ala Asn Arg Leu Ala Ser Asp Gly Ala Thr
305                 310                 315                 320

Trp Ala Asp Ile Phe Lys Arg Phe Asn Ser Gly Thr Tyr Asn Asn Gln
                325                 330                 335

Trp Met Ile Val Asp Tyr Lys Ala Phe Ile Pro Gly Gly Pro Ser Pro
            340                 345                 350

Gly Ser Arg Val Leu Thr Ile Leu Glu Gln Ile Pro Gly Met Val Val
        355                 360                 365

Val Ala Asp Lys Thr Ser Glu Leu Tyr Gln Lys Thr Tyr Trp Ala Ser
    370                 375                 380

Tyr Asn Ile Pro Ser Phe Glu Thr Val Phe Asn Ala Ser Gly Leu Gln
385                 390                 395                 400

Ala Leu Val Ala Gln Tyr Gly Asp Trp Phe Ser Tyr Asp Gly Ser Pro
                405                 410                 415

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

Ser Met Val Arg Leu Met Arg Tyr Asn Asp Phe Leu His Asp Pro Leu
        435                 440                 445

Ser Leu Cys Lys Ala Cys Asn Pro Gln Pro Asn Gly Glu Asn Ala Ile
    450                 455                 460

Ser Ala Arg Ser Asp Leu Asn Pro Ala Asn Gly Ser Tyr Pro Phe Gln
465                 470                 475                 480
```

```
Ala Leu Arg Gln Arg Ser His Gly Gly Ile Asp Val Lys Val Thr Ser
                485                 490                 495


Met Ser Leu Ala Arg Ile Leu Ser Leu Leu Ala Ala Ser Gly Pro Thr
            500                 505                 510


Trp Asp Gln Val Pro Pro Phe Gln Trp Ser Thr Ser Pro Phe Ser Gly
        515                 520                 525


Leu Leu His Met Gly Gln Pro Asp Leu Trp Lys Phe Ala Pro Val Lys
    530                 535                 540


Val Ser Trp Asp
545


<210>  59
<211>  334
<212>  PRT
<213>  HOMO SAPIENS

<400>  59

Ala Thr Ile Ser Cys Arg Asn Glu Glu Gly Lys Ala Val Asp Trp Phe
1               5                   10                  15


Thr Phe Tyr Lys Leu Pro Lys Arg Gln Asn Lys Glu Ser Gly Glu Thr
            20                  25                  30


Gly Leu Glu Tyr Leu Tyr Leu Asp Ser Thr Thr Arg Ser Trp Arg Lys
        35                  40                  45


Ser Glu Gln Leu Met Asn Asp Thr Lys Ser Val Leu Gly Arg Thr Leu
    50                  55                  60


Gln Gln Leu Tyr Glu Ala Tyr Ala Ser Lys Ser Asn Asn Thr Ala Tyr
65                  70                  75                  80
```

```
Leu Ile Tyr Asn Asp Gly Val Pro Lys Pro Val Asn Tyr Ser Arg Lys
                85                  90                  95

Tyr Gly His Thr Lys Gly Leu Leu Leu Trp Asn Arg Val Gln Gly Phe
            100                 105                 110

Trp Leu Ile His Ser Ile Pro Gln Phe Pro Pro Ile Pro Glu Glu Gly
        115                 120                 125

Tyr Asp Tyr Pro Pro Thr Gly Arg Arg Asn Gly Gln Ser Gly Ile Cys
    130                 135                 140

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

Val Cys Asn Pro Asn Val Tyr Ser Cys Ser Ile Pro Ala Thr Phe His
                165                 170                 175

Gln Glu Leu Ile His Met Pro Gln Leu Cys Thr Arg Ala Ser Ser Ser
            180                 185                 190

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

Lys Phe Leu His Phe Ala Lys Ser Asp Ser Phe Leu Asp Asp Ile Phe
    210                 215                 220

Ala Ala Trp Met Ala Gln Arg Leu Lys Thr His Leu Leu Thr Glu Thr
225                 230                 235                 240

Trp Gln Arg Lys Arg Gln Glu Leu Pro Ser Asn Cys Ser Leu Pro Tyr
                245                 250                 255

His Val Tyr Asn Ile Lys Ala Ile Lys Leu Ser Arg His Ser Tyr Phe
            260                 265                 270
```

```
Ser Ser Tyr Gln Asp His Ala Lys Trp Cys Ile Ser Gln Lys Gly Thr
        275                 280                 285


Lys Asn Arg Trp Thr Cys Ile Gly Asp Leu Asn Arg Ser Pro His Gln
    290                 295                 300


Ala Phe Arg Ser Gly Gly Phe Ile Cys Thr Gln Asn Trp Gln Ile Tyr
305                 310                 315                 320


Gln Ala Phe Gln Gly Leu Val Leu Tyr Tyr Glu Ser Cys Lys
                325                 330


<210>  60
<211>  294
<212>  PRT
<213>  HOMO SAPIENS

<400>  60

Arg Pro His Gly Asp Thr Ala Lys Lys Pro Ile Ile Gly Ile Leu Met
1               5                   10                  15


Gln Lys Cys Arg Asn Lys Val Met Lys Asn Tyr Gly Arg Tyr Tyr Ile
            20                  25                  30


Ala Ala Ser Tyr Val Lys Tyr Leu Glu Ser Ala Gly Ala Arg Val Val
        35                  40                  45


Pro Val Arg Leu Asp Leu Thr Glu Lys Asp Tyr Glu Ile Leu Phe Lys
    50                  55                  60


Ser Ile Asn Gly Ile Leu Phe Pro Gly Gly Ser Val Asp Leu Arg Arg
65                  70                  75                  80


Ser Asp Tyr Ala Lys Val Ala Lys Ile Phe Tyr Asn Leu Ser Ile Gln
                85                  90                  95
```

```
Ser Phe Asp Asp Gly Asp Tyr Phe Pro Val Trp Gly Thr Cys Leu Gly
            100                 105                 110

Phe Glu Glu Leu Ser Leu Leu Ile Ser Gly Glu Cys Leu Leu Thr Ala
        115                 120                 125

Thr Asp Thr Val Asp Val Ala Met Pro Leu Asn Phe Thr Gly Gly Gln
    130                 135                 140

Leu His Ser Arg Met Phe Gln Asn Phe Pro Thr Glu Leu Leu Leu Ser
145                 150                 155                 160

Leu Ala Val Glu Pro Leu Thr Ala Asn Phe His Lys Trp Ser Leu Ser
                165                 170                 175

Val Lys Asn Phe Thr Met Asn Glu Lys Leu Lys Lys Phe Phe Asn Val
            180                 185                 190

Leu Thr Thr Asn Thr Asp Gly Lys Ile Glu Phe Ile Ser Thr Met Glu
        195                 200                 205

Gly Tyr Lys Tyr Pro Val Tyr Gly Val Gln Trp His Pro Glu Lys Ala
    210                 215                 220

Pro Tyr Glu Trp Lys Asn Leu Asp Gly Ile Ser His Ala Pro Asn Ala
225                 230                 235                 240

Val Lys Thr Ala Phe Tyr Leu Ala Glu Phe Phe Val Asn Glu Ala Arg
                245                 250                 255

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

Ile Tyr Gln Phe Ser Pro Ile Tyr Thr Gly Asn Ile Ser Ser Phe Gln
        275                 280                 285
```

Gln Cys Tyr Ile Phe Asp
290

<210> 61
<211> 509
<212> PRT
<213> HOMO SAPIENS

<400> 61

Gly Phe Leu Tyr Pro Leu Val Asp Phe Cys Ile Ser Gly Lys Thr Arg
1 5 10 15

Gly Gln Lys Pro Asn Phe Val Ile Ile Leu Ala Asp Asp Met Gly Trp
20 25 30

Gly Asp Leu Gly Ala Asn Trp Ala Glu Thr Lys Asp Thr Ala Asn Leu
35 40 45

Asp Lys Met Ala Ser Glu Gly Met Arg Phe Val Asp Phe His Ala Ala
50 55 60

Ala Ser Thr Cys Ser Pro Ser Arg Ala Ser Leu Leu Thr Gly Arg Leu
65 70 75 80

Gly Leu Arg Asn Gly Val Thr Arg Asn Phe Ala Val Thr Ser Val Gly
85 90 95

Gly Leu Pro Leu Asn Glu Thr Thr Leu Ala Glu Val Leu Gln Gln Ala
100 105 110

Gly Tyr Val Thr Gly Ile Ile Gly Lys Trp His Leu Gly His His Gly
115 120 125

Ser Tyr His Pro Asn Phe Arg Gly Phe Asp Tyr Tyr Phe Gly Ile Pro
130 135 140

Tyr Ser His Asp Met Gly Cys Thr Asp Thr Pro Gly Tyr Asn His Pro

```
145                 150                 155                 160

Pro Cys Pro Ala Cys Pro Gln Gly Asp Gly Pro Ser Arg Asn Leu Gln
                165                 170                 175

Arg Asp Cys Tyr Thr Asp Val Ala Leu Pro Leu Tyr Glu Asn Leu Asn
            180                 185                 190

Ile Val Glu Gln Pro Val Asn Leu Ser Ser Leu Ala Gln Lys Tyr Ala
        195                 200                 205

Glu Lys Ala Thr Gln Phe Ile Gln Arg Ala Ser Thr Ser Gly Arg Pro
    210                 215                 220

Phe Leu Leu Tyr Val Ala Leu Ala His Met His Val Pro Leu Pro Val
225                 230                 235                 240

Thr Gln Leu Pro Ala Ala Pro Arg Gly Arg Ser Leu Tyr Gly Ala Gly
                245                 250                 255

Leu Trp Glu Met Asp Ser Leu Val Gly Gln Ile Lys Asp Lys Val Asp
            260                 265                 270

His Thr Val Lys Glu Asn Thr Phe Leu Trp Phe Thr Gly Asp Asn Gly
        275                 280                 285

Pro Trp Ala Gln Lys Cys Glu Leu Ala Gly Ser Val Gly Pro Phe Thr
    290                 295                 300

Gly Phe Trp Gln Thr Arg Gln Gly Gly Ser Pro Ala Lys Gln Thr Thr
305                 310                 315                 320

Trp Glu Gly Gly His Arg Val Pro Ala Leu Ala Tyr Trp Pro Gly Arg
                325                 330                 335

Val Pro Val Asn Val Thr Ser Thr Ala Leu Leu Ser Val Leu Asp Ile
```

```
            340                 345                 350

Phe Pro Thr Val Val Ala Leu Ala Gln Ala Ser Leu Pro Gln Gly Arg
        355                 360                 365

Arg Phe Asp Gly Val Asp Val Ser Glu Val Leu Phe Gly Arg Ser Gln
    370                 375                 380

Pro Gly His Arg Val Leu Phe His Pro Asn Ser Gly Ala Ala Gly Glu
385                 390                 395                 400

Phe Gly Ala Leu Gln Thr Val Arg Leu Glu Arg Tyr Lys Ala Phe Tyr
                405                 410                 415

Ile Thr Gly Gly Ala Arg Ala Cys Asp Gly Ser Thr Gly Pro Glu Leu
            420                 425                 430

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

Ala Val Pro Leu Glu Arg Gly Gly Ala Glu Tyr Gln Ala Val Leu Pro
    450                 455                 460

Glu Val Arg Lys Val Leu Ala Asp Val Leu Gln Asp Ile Ala Asn Asp
465                 470                 475                 480

Asn Ile Ser Ser Ala Asp Tyr Thr Gln Asp Pro Ser Val Thr Pro Cys
                485                 490                 495

Cys Asn Pro Tyr Gln Ile Ala Cys Arg Cys Gln Ala Ala
            500                 505
```

<210> 62
<211> 546
<212> PRT
<213> HOMO SAPIENS

<400> 62

```
Gln Asp Trp Lys Ala Glu Arg Ser Gln Asp Pro Phe Glu Lys Cys Met
1               5                   10                  15

Gln Asp Pro Asp Tyr Glu Gln Leu Leu Lys Val Val Thr Trp Gly Leu
            20                  25                  30

Asn Arg Thr Leu Lys Pro Gln Arg Val Ile Val Val Gly Ala Gly Val
        35                  40                  45

Ala Gly Leu Val Ala Ala Lys Val Leu Ser Asp Ala Gly His Lys Val
    50                  55                  60

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

Arg Asp Gln Asn Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met
                85                  90                  95

Pro Ser Ser His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu
            100                 105                 110

Asn Leu Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val
        115                 120                 125

His Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys
    130                 135                 140

Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu Asp
145                 150                 155                 160

Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys Ala Leu
                165                 170                 175

Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr Leu Leu Glu
            180                 185                 190
```

```
Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala Val Gln Leu Leu
        195                 200                 205

Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr Leu Ser Phe Ala Glu
    210                 215                 220

Ala Leu Arg Ala His Ser Cys Leu Ser Asp Arg Leu Gln Tyr Ser Arg
225                 230                 235                 240

Ile Val Gly Gly Trp Asp Leu Leu Pro Arg Ala Leu Leu Ser Ser Leu
                245                 250                 255

Ser Gly Leu Val Leu Leu Asn Ala Pro Val Val Ala Met Thr Gln Gly
            260                 265                 270

Pro His Asp Val His Val Gln Ile Glu Thr Ser Pro Pro Ala Arg Asn
        275                 280                 285

Leu Lys Val Leu Lys Ala Asp Val Val Leu Leu Thr Ala Ser Gly Pro
    290                 295                 300

Ala Val Lys Arg Ile Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln
305                 310                 315                 320

Glu Ala Leu Arg Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu
                325                 330                 335

Ser Phe Arg Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His
            340                 345                 350

Ser Asn Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg
        355                 360                 365

Glu Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala
    370                 375                 380
```

```
Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu Asp
385                 390                 395                 400

Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp Asp Gly
                405                 410                 415

Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser Gln Gly Gly
            420                 425                 430

Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu Lys Asp Asp Trp
        435                 440                 445

Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly Glu His Thr Ala Tyr
    450                 455                 460

Pro His Gly Trp Val Glu Thr Ala Val Lys Ser Ala Leu Arg Ala Ala
465                 470                 475                 480

Ile Lys Ile Asn Ser Arg Lys Gly Pro Ala Ser Asp Thr Ala Ser Pro
                485                 490                 495

Glu Gly His Ala Ser Asp Met Glu Gly Gln Gly His Val His Gly Val
            500                 505                 510

Ala Ser Ser Pro Ser His Asp Leu Ala Lys Glu Glu Gly Ser His Pro
        515                 520                 525

Pro Val Gln Gly Gln Leu Ser Leu Gln Asn Thr Thr His Thr Arg Thr
    530                 535                 540

Ser His
545
```

<210> 63
<211> 368

<212> PRT
<213> HOMO SAPIENS

<400> 63

```
Glu Asn Asp Phe Gly Leu Val Gln Pro Leu Val Thr Met Glu Gln Leu
1               5                  10                  15

Leu Trp Val Ser Gly Arg Gln Ile Gly Ser Val Asp Thr Phe Arg Ile
            20                  25                  30

Pro Leu Ile Thr Ala Thr Pro Arg Gly Thr Leu Leu Ala Phe Ala Glu
        35                  40                  45

Ala Arg Lys Met Ser Ser Ser Asp Glu Gly Ala Lys Phe Ile Ala Leu
    50                  55                  60

Arg Arg Ser Met Asp Gln Gly Ser Thr Trp Ser Pro Thr Ala Phe Ile
65                  70                  75                  80

Val Asn Asp Gly Asp Val Pro Asp Gly Leu Asn Leu Gly Ala Val Val
                85                  90                  95

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

His Lys Ala Gly Cys Gln Val Ala Ser Thr Met Leu Val Trp Ser Lys
        115                 120                 125

Asp Asp Gly Val Ser Trp Ser Thr Pro Arg Asn Leu Ser Leu Asp Ile
    130                 135                 140

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

Arg Glu Pro Arg Lys Gly Arg Leu Ile Val Cys Gly His Gly Thr Leu
                165                 170                 175
```

```
Glu Arg Asp Gly Val Phe Cys Leu Leu Ser Asp Asp His Gly Ala Ser
            180                 185                 190

Trp Arg Tyr Gly Ser Gly Val Ser Gly Ile Pro Tyr Gly Gln Pro Lys
        195                 200                 205

Gln Glu Asn Asp Phe Asn Pro Asp Glu Cys Gln Pro Tyr Glu Leu Pro
    210                 215                 220

Asp Gly Ser Val Val Ile Asn Ala Arg Asn Gln Asn Asn Tyr His Cys
225                 230                 235                 240

His Cys Arg Ile Val Leu Arg Ser Tyr Asp Ala Cys Asp Thr Leu Arg
                245                 250                 255

Pro Arg Asp Val Thr Phe Asp Pro Glu Leu Val Asp Pro Val Val Ala
            260                 265                 270

Ala Gly Ala Val Val Thr Ser Ser Gly Ile Val Phe Phe Ser Asn Pro
        275                 280                 285

Ala His Pro Glu Phe Arg Val Asn Leu Thr Leu Arg Trp Ser Phe Ser
    290                 295                 300

Asn Gly Thr Ser Trp Arg Lys Glu Thr Val Gln Leu Trp Pro Gly Pro
305                 310                 315                 320

Ser Gly Tyr Ser Ser Leu Ala Thr Leu Glu Gly Ser Met Asp Gly Glu
                325                 330                 335

Glu Gln Ala Pro Gln Leu Tyr Val Leu Tyr Glu Lys Gly Arg Asn His
            340                 345                 350

Tyr Thr Glu Ser Ile Ser Val Ala Lys Ile Ser Val Tyr Gly Thr Leu
        355                 360                 365
```

<210> 64
<211> 416
<212> PRT
<213> HOMO SAPIENS

<400> 64

```
Val Pro Ile Asp Asp Pro Glu Asp Gly Gly Lys His Trp Val Val Ile
1               5                  10                  15


Val Ala Gly Ser Asn Gly Trp Tyr Asn Tyr Arg His Gln Ala Asp Ala
            20                  25                  30


Cys His Ala Tyr Gln Ile Ile His Arg Asn Gly Ile Pro Asp Glu Gln
        35                  40                  45


Ile Val Val Met Met Tyr Asp Asp Ile Ala Tyr Ser Glu Asp Asn Pro
    50                  55                  60


Thr Pro Gly Ile Val Ile Asn Arg Pro Asn Gly Thr Asp Val Tyr Gln
65                  70                  75                  80


Gly Val Pro Lys Asp Tyr Thr Gly Glu Asp Val Thr Pro Gln Asn Phe
                85                  90                  95


Leu Ala Val Leu Arg Gly Asp Ala Glu Ala Val Lys Gly Ile Gly Ser
            100                 105                 110


Gly Lys Val Leu Lys Ser Gly Pro Gln Asp His Val Phe Ile Tyr Phe
        115                 120                 125


Thr Asp His Gly Ser Thr Gly Ile Leu Val Phe Pro Asn Glu Asp Leu
    130                 135                 140


His Val Lys Asp Leu Asn Glu Thr Ile His Tyr Met Tyr Lys His Lys
145                 150                 155                 160
```

```
Met Tyr Arg Lys Met Val Phe Tyr Ile Glu Ala Cys Glu Ser Gly Ser
               165                 170                 175

Met Met Asn His Leu Pro Asp Asn Ile Asn Val Tyr Ala Thr Thr Ala
            180                 185                 190

Ala Asn Pro Arg Glu Ser Ser Tyr Ala Cys Tyr Tyr Asp Glu Lys Arg
        195                 200                 205

Ser Thr Tyr Leu Gly Asp Trp Tyr Ser Val Asn Trp Met Glu Asp Ser
    210                 215                 220

Asp Val Glu Asp Leu Thr Lys Glu Thr Leu His Lys Gln Tyr His Leu
225                 230                 235                 240

Val Lys Ser His Thr Asn Thr Ser His Val Met Gln Tyr Gly Asn Lys
               245                 250                 255

Thr Ile Ser Thr Met Lys Val Met Gln Phe Gln Gly Met Lys Arg Lys
            260                 265                 270

Ala Ser Ser Pro Val Pro Leu Pro Pro Val Thr His Leu Asp Leu Thr
        275                 280                 285

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

Thr Asn Asp Leu Glu Glu Ser Arg Gln Leu Thr Glu Glu Ile Gln Arg
305                 310                 315                 320

His Leu Asp Ala Arg His Leu Ile Glu Lys Ser Val Arg Lys Ile Val
               325                 330                 335

Ser Leu Leu Ala Ala Ser Glu Ala Glu Val Glu Gln Leu Leu Ser Glu
            340                 345                 350
```

```
Arg Ala Pro Leu Thr Gly His Ser Cys Tyr Pro Glu Ala Leu Leu His
        355                 360                 365


Phe Arg Thr His Cys Phe Asn Trp His Ser Pro Thr Tyr Glu Tyr Ala
    370                 375                 380


Leu Arg His Leu Tyr Val Leu Val Asn Leu Cys Glu Lys Pro Tyr Pro
385                 390                 395                 400


Leu His Arg Ile Lys Leu Ser Met Asp His Val Cys Leu Gly His Tyr
                405                 410                 415


<210>  65
<211>  500
<212>  PRT
<213>  HOMO SAPIENS

<400>  65

Ile Gly Phe Arg Phe Ala Ser Tyr Ile Asn Asn Asp Met Val Leu Gln
1               5                   10                  15


Lys Glu Pro Ala Gly Ala Val Ile Trp Gly Phe Gly Thr Pro Gly Ala
            20                  25                  30


Thr Val Thr Val Thr Leu Arg Gln Gly Gln Glu Thr Ile Met Lys Lys
        35                  40                  45


Val Thr Ser Val Lys Ala His Ser Asp Thr Trp Met Val Val Leu Asp
    50                  55                  60


Pro Met Lys Pro Gly Gly Pro Phe Glu Val Met Ala Gln Gln Thr Leu
65                  70                  75                  80


Glu Lys Ile Asn Phe Thr Leu Arg Val His Asp Val Leu Phe Gly Asp
                85                  90                  95


Val Trp Leu Cys Ser Gly Gln Ser Asn Met Gln Met Thr Val Leu Gln
```

```
            100                 105                 110

Ile Phe Asn Ala Thr Arg Glu Leu Ser Asn Thr Ala Ala Tyr Gln Ser
        115                 120                 125

Val Arg Ile Leu Ser Val Ser Pro Ile Gln Ala Glu Gln Glu Leu Glu
    130                 135                 140

Asp Leu Val Ala Val Asp Leu Gln Trp Ser Lys Pro Thr Ser Glu Asn
145                 150                 155                 160

Leu Gly His Gly Tyr Phe Lys Tyr Met Ser Ala Val Cys Trp Leu Phe
                165                 170                 175

Gly Arg His Leu Tyr Asp Thr Leu Gln Tyr Pro Ile Gly Leu Ile Ala
            180                 185                 190

Ser Ser Trp Gly Gly Thr Pro Ile Glu Ala Trp Ser Ser Gly Arg Ser
        195                 200                 205

Leu Lys Ala Cys Gly Val Pro Lys Gln Gly Ser Ile Pro Tyr Asp Ser
    210                 215                 220

Val Thr Gly Pro Ser Lys His Ser Val Leu Trp Asn Ala Met Ile His
225                 230                 235                 240

Pro Leu Cys Asn Met Thr Leu Lys Gly Val Val Trp Tyr Gln Gly Glu
                245                 250                 255

Ser Asn Ile Asn Tyr Asn Thr Asp Leu Tyr Asn Cys Thr Phe Pro Ala
            260                 265                 270

Leu Ile Glu Asp Trp Arg Glu Thr Phe His Arg Gly Ser Gln Gly Gln
        275                 280                 285

Thr Glu Arg Phe Phe Pro Phe Gly Leu Val Gln Leu Ser Ser Asp Leu
```

```
    290                 295                 300

Ser Lys Lys Ser Ser Asp Asp Gly Phe Pro Gln Ile Arg Trp His Gln
305                 310                 315                 320

Thr Ala Asp Phe Gly Tyr Val Pro Asn Pro Lys Met Pro Asn Thr Phe
                325                 330                 335

Met Ala Val Ala Met Asp Leu Cys Asp Arg Asp Ser Pro Phe Gly Ser
            340                 345                 350

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

Ala Arg Ala Leu Ala Tyr Gly Glu Lys Asn Leu Thr Phe Glu Gly Pro
    370                 375                 380

Leu Pro Glu Lys Ile Glu Leu Leu Ala His Lys Gly Leu Leu Asn Leu
385                 390                 395                 400

Thr Tyr Tyr Gln Gln Ile Gln Val Gln Lys Lys Asp Asn Lys Ile Phe
                405                 410                 415

Glu Ile Ser Cys Cys Ser Asp His Arg Cys Lys Trp Leu Pro Ala Ser
            420                 425                 430

Met Asn Thr Val Ser Thr Gln Ser Leu Thr Leu Ala Ile Asp Ser Cys
        435                 440                 445

His Gly Thr Val Val Ala Leu Arg Tyr Ala Trp Thr Thr Trp Pro Cys
    450                 455                 460

Glu Tyr Lys Gln Cys Pro Leu Tyr His Pro Ser Ser Ala Leu Pro Ala
465                 470                 475                 480

Pro Pro Phe Ile Ala Phe Ile Thr Asp Gln Gly Pro Gly His Gln Ser
```

485 490 495

Asn Val Ala Lys
500

<210> 66
<211> 490
<212> PRT
<213> HOMO SAPIENS

<400> 66

Ser Leu Leu Arg Arg Leu Gly Glu His Ile Gln Gln Phe Gln Glu Ser
1 5 10 15

Ser Ala Gln Gly Leu Gly Leu Ser Leu Gly Pro Gly Ala Ala Ala Leu
20 25 30

Pro Lys Val Gly Trp Leu Glu Gln Leu Leu Asp Pro Phe Asn Val Ser
35 40 45

Asp Arg Arg Ser Phe Leu Gln Arg Tyr Trp Val Asn Asp Gln His Trp
50 55 60

Val Gly Gln Asp Gly Pro Ile Phe Leu His Leu Gly Gly Glu Gly Ser
65 70 75 80

Leu Gly Pro Gly Ser Val Met Arg Gly His Pro Ala Ala Leu Ala Pro
85 90 95

Ala Trp Gly Ala Leu Val Ile Ser Leu Glu His Arg Phe Tyr Gly Leu
100 105 110

Ser Ile Pro Ala Gly Gly Leu Glu Met Ala Gln Leu Arg Phe Leu Ser
115 120 125

Ser Arg Leu Ala Leu Ala Asp Val Val Ser Ala Arg Leu Ala Leu Ser
130 135 140

```
Arg Leu Phe Asn Ile Ser Ser Ser Ser Pro Trp Ile Cys Phe Gly Gly
145                 150                 155                 160

Ser Tyr Ala Gly Ser Leu Ala Ala Trp Ala Arg Leu Lys Phe Pro His
                165                 170                 175

Leu Ile Phe Ala Ser Val Ala Ser Ser Ala Pro Val Arg Ala Val Leu
            180                 185                 190

Asp Phe Ser Glu Tyr Asn Asp Val Val Ser Arg Ser Leu Met Ser Thr
        195                 200                 205

Ala Ile Gly Gly Ser Leu Glu Cys Arg Ala Ala Val Ser Val Ala Phe
    210                 215                 220

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

Leu Arg Thr Glu Leu Ser Ala Cys Gly Pro Leu Gly Arg Ala Glu Asn
                245                 250                 255

Gln Ala Glu Leu Leu Gly Ala Leu Gln Ala Leu Val Gly Gly Val Val
            260                 265                 270

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

Gly Leu Leu Leu Gly Gly Gly Gly Asn Arg Ser His Ser Thr Pro Tyr
    290                 295                 300

Cys Gly Leu Arg Arg Ala Val Gln Ile Val Leu His Ser Leu Gly Gln
305                 310                 315                 320

Lys Cys Leu Ser Phe Ser Arg Ala Glu Thr Val Ala Gln Leu Arg Ser
                325                 330                 335
```

```
Thr Glu Pro Gln Leu Ser Gly Val Gly Asp Arg Gln Trp Leu Tyr Gln
            340                 345                 350

Thr Cys Thr Glu Phe Gly Phe Tyr Val Thr Cys Glu Asn Pro Arg Cys
        355                 360                 365

Pro Phe Ser Gln Leu Pro Ala Leu Pro Ser Gln Leu Asp Leu Cys Glu
    370                 375                 380

Gln Val Phe Gly Leu Ser Ala Leu Ser Val Ala Gln Ala Val Ala Gln
385                 390                 395                 400

Thr Asn Ser Tyr Tyr Gly Gly Gln Thr Pro Gly Ala Asn Lys Val Leu
                405                 410                 415

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

Ala Leu Gly Ser Ser Glu Ser Thr Leu Leu Ile Arg Thr Gly Ser His
        435                 440                 445

Cys Leu Asp Met Ala Pro Glu Arg Pro Ser Asp Ser Pro Ser Leu Arg
    450                 455                 460

Leu Gly Arg Gln Asn Ile Phe Gln Gln Leu Gln Thr Trp Leu Lys Leu
465                 470                 475                 480

Ala Lys Glu Ser Gln Ile Lys Gly Glu Val
                485                 490
```

<210> 67
<211> 280
<212> PRT
<213> HOMO SAPIENS

<400> 67

```
Gly Leu Tyr Phe Arg Arg Gly Gln Thr Cys Tyr Arg Pro Leu Arg Gly
1               5                   10                  15

Asp Gly Leu Ala Pro Leu Gly Arg Ser Thr Tyr Pro Arg Pro His Glu
            20                  25                  30

Tyr Leu Ser Pro Ala Asp Leu Pro Lys Ser Trp Asp Trp Arg Asn Val
        35                  40                  45

Asp Gly Val Asn Tyr Ala Ser Ile Thr Arg Asn Gln His Ile Pro Gln
    50                  55                  60

Tyr Cys Gly Ser Cys Trp Ala His Ala Ser Thr Ser Ala Met Ala Asp
65                  70                  75                  80

Arg Ile Asn Ile Lys Arg Lys Gly Ala Trp Pro Ser Thr Leu Leu Ser
                85                  90                  95

Val Gln Asn Val Ile Asp Cys Gly Asn Ala Gly Ser Cys Glu Gly Gly
            100                 105                 110

Asn Asp Leu Ser Val Trp Asp Tyr Ala His Gln His Gly Ile Pro Asp
        115                 120                 125

Glu Thr Cys Asn Asn Tyr Gln Ala Lys Asp Gln Glu Cys Asp Lys Phe
    130                 135                 140

Asn Gln Cys Gly Thr Cys Asn Glu Phe Lys Glu Cys His Ala Ile Arg
145                 150                 155                 160

Asn Tyr Thr Leu Trp Arg Val Gly Asp Tyr Gly Ser Leu Ser Gly Arg
                165                 170                 175

Glu Lys Met Met Ala Glu Ile Tyr Ala Asn Gly Pro Ile Ser Cys Gly
            180                 185                 190
```

```
Ile Met Ala Thr Glu Arg Leu Ala Asn Tyr Thr Gly Gly Ile Tyr Ala
        195                 200                 205


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


Trp Gly Ile Ser Asp Gly Thr Glu Tyr Trp Ile Val Arg Asn Ser Trp
225                 230                 235                 240


Gly Glu Pro Trp Gly Glu Arg Gly Trp Leu Arg Ile Val Thr Ser Thr
                245                 250                 255


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


Cys Thr Phe Gly Asp Pro Ile Val
        275                 280


<210>  68
<211>  465
<212>  PRT
<213>  HOMO SAPIENS

<400>  68

Ala Pro Ala Gln Pro Arg Ala Ala Ser Phe Gln Ala Trp Gly Pro Pro
1               5                   10                  15


Ser Pro Glu Leu Leu Ala Pro Thr Arg Phe Ala Leu Glu Met Phe Asn
            20                  25                  30


Arg Gly Arg Ala Ala Gly Thr Arg Ala Val Leu Gly Leu Val Arg Gly
        35                  40                  45


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

```
Leu Glu Glu Pro Pro Cys Asn Asp Pro Met Val Cys Arg Leu Pro Val
65                  70                  75                  80


Ser Lys Lys Thr Leu Leu Cys Ser Phe Gln Val Leu Asp Glu Leu Gly
                85                  90                  95


Arg His Val Leu Leu Arg Lys Asp Cys Gly Pro Val Asp Thr Lys Val
            100                 105                 110


Pro Gly Ala Gly Glu Pro Lys Ser Ala Phe Thr Gln Gly Ser Ala Met
        115                 120                 125


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


Ser Ser Val Ile Ser Leu Leu Asn Glu Asp Pro Leu Ser Gln Asp Leu
145                 150                 155                 160


Pro Val Lys Met Ala Ser Ile Phe Lys Asn Phe Val Ile Thr Tyr Asn
                165                 170                 175


Arg Thr Tyr Glu Ser Lys Glu Glu Ala Arg Trp Arg Leu Ser Val Phe
            180                 185                 190


Val Asn Asn Met Val Arg Ala Gln Lys Ile Gln Ala Leu Asp Arg Gly
        195                 200                 205


Thr Ala Gln Tyr Gly Val Thr Lys Phe Ser Asp Leu Thr Glu Glu Glu
    210                 215                 220


Phe Arg Thr Ile Tyr Leu Asn Thr Leu Leu Arg Lys Glu Pro Gly Asn
225                 230                 235                 240


Lys Met Lys Gln Ala Lys Ser Val Gly Asp Leu Ala Pro Pro Glu Trp
                245                 250                 255
```

```
Asp Trp Arg Ser Lys Gly Ala Val Thr Lys Val Lys Asp Gln Gly Met
            260                 265                 270

Cys Gly Ser Cys Trp Ala Phe Ser Val Thr Gly Asn Val Glu Gly Gln
        275                 280                 285

Trp Phe Leu Asn Gln Gly Thr Leu Leu Ser Leu Ser Glu Gln Glu Leu
    290                 295                 300

Leu Asp Cys Asp Lys Met Asp Lys Ala Cys Met Gly Gly Leu Pro Ser
305                 310                 315                 320

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

Asp Tyr Ser Tyr Gln Gly His Met Gln Ser Cys Asn Phe Ser Ala Glu
            340                 345                 350

Lys Ala Lys Val Tyr Ile Asn Asp Ser Val Glu Leu Ser Gln Asn Glu
        355                 360                 365

Gln Lys Leu Ala Ala Trp Leu Ala Lys Arg Gly Pro Ile Ser Val Ala
    370                 375                 380

Ile Asn Ala Phe Gly Met Gln Phe Tyr Arg His Gly Ile Ser Arg Pro
385                 390                 395                 400

Leu Arg Pro Leu Cys Ser Pro Trp Leu Ile Asp His Ala Val Leu Leu
                405                 410                 415

Val Gly Tyr Gly Asn Arg Ser Asp Val Pro Phe Trp Ala Ile Lys Asn
            420                 425                 430

Ser Trp Gly Thr Asp Trp Gly Glu Lys Gly Tyr Tyr Tyr Leu His Arg
        435                 440                 445
```

Gly Ser Gly Ala Cys Gly Val Asn Thr Met Ala Ser Ser Ala Val Val
450 455 460

Asp
465

<210> 69
<211> 478
<212> PRT
<213> HOMO SAPIENS

<400> 69

Ala Glu Leu Arg Ala Pro Pro Asp Lys Ile Ala Ile Ile Gly Ala Gly
1 5 10 15

Ile Gly Gly Thr Ser Ala Ala Tyr Tyr Leu Arg Gln Lys Phe Gly Lys
20 25 30

Asp Val Lys Ile Asp Leu Phe Glu Arg Glu Glu Val Gly Gly Arg Leu
35 40 45

Ala Thr Met Met Val Gln Gly Gln Glu Tyr Glu Ala Gly Gly Ser Val
50 55 60

Ile His Pro Leu Asn Leu His Met Lys Arg Phe Val Lys Asp Leu Gly
65 70 75 80

Leu Ser Ala Val Gln Ala Ser Gly Gly Leu Leu Gly Ile Tyr Asn Gly
85 90 95

Glu Thr Leu Val Phe Glu Glu Ser Asn Trp Phe Ile Ile Asn Val Ile
100 105 110

Lys Leu Val Trp Arg Tyr Gly Phe Gln Ser Leu Arg Met His Met Trp
115 120 125

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

```
    130                 135                 140

His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu Leu His Ala Leu Gly
145                 150                 155                 160

Gly Asp Asp Phe Leu Gly Met Leu Asn Arg Thr Leu Leu Glu Thr Leu
                165                 170                 175

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

Val Met Arg Val Asn Tyr Gly Gln Ser Thr Asp Ile Asn Ala Phe Val
        195                 200                 205

Gly Ala Val Ser Leu Ser Cys Ser Asp Ser Gly Leu Trp Ala Val Glu
    210                 215                 220

Gly Gly Asn Lys Leu Val Cys Ser Gly Leu Leu Gln Ala Ser Lys Ser
225                 230                 235                 240

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

Lys Tyr Thr Gly Asn Pro Thr Lys Met Tyr Glu Val Val Tyr Gln Ile
            260                 265                 270

Gly Thr Glu Thr Arg Ser Asp Phe Tyr Asp Ile Val Leu Val Ala Thr
        275                 280                 285

Pro Leu Asn Arg Lys Met Ser Asn Ile Thr Phe Leu Asn Phe Asp Pro
    290                 295                 300

Pro Ile Glu Glu Phe His Gln Tyr Tyr Gln His Ile Val Thr Thr Leu
305                 310                 315                 320

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

325 330 335

Lys Phe Gly Leu Asn Thr Val Leu Thr Thr Asp Asn Ser Asp Leu Phe
340 345 350

Ile Asn Ser Ile Gly Ile Val Pro Ser Val Arg Glu Lys Glu Asp Pro
355 360 365

Glu Pro Ser Thr Asp Gly Thr Tyr Val Trp Lys Ile Phe Ser Gln Glu
370 375 380

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

Ala Val Lys Lys Pro Trp Leu Ala Tyr Pro His Tyr Lys Pro Pro Glu
405 410 415

Lys Cys Pro Ser Ile Ile Leu His Asp Arg Leu Tyr Tyr Leu Asn Gly
420 425 430

Ile Glu Cys Ala Ala Ser Ala Met Glu Met Ser Ala Ile Ala Ala His
435 440 445

Asn Ala Ala Leu Leu Ala Tyr His Arg Trp Asn Gly His Thr Asp Met
450 455 460

Ile Asp Gln Asp Gly Leu Tyr Glu Lys Leu Lys Thr Glu Leu
465 470 475

<210> 70
<211> 471
<212> PRT
<213> HOMO SAPIENS

<400> 70

Gly Ala Arg Arg Ala Pro Asp Pro Gly Phe Gln Glu Arg Phe Phe Gln
1 5 10 15

```
Gln Arg Leu Asp His Phe Asn Phe Glu Arg Phe Gly Asn Lys Thr Phe
            20                  25                  30

Pro Gln Arg Phe Leu Val Ser Asp Arg Phe Trp Val Arg Gly Glu Gly
        35                  40                  45

Pro Ile Phe Phe Tyr Thr Gly Asn Glu Gly Asp Val Trp Ala Phe Ala
    50                  55                  60

Asn Asn Ser Ala Phe Val Ala Glu Leu Ala Ala Glu Arg Gly Ala Leu
65                  70                  75                  80

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

Ala Gln Ser Thr Gln Arg Gly His Thr Glu Leu Leu Thr Val Glu Gln
            100                 105                 110

Ala Leu Ala Asp Phe Ala Glu Leu Leu Arg Ala Leu Arg Arg Asp Leu
        115                 120                 125

Gly Ala Gln Asp Ala Pro Ala Ile Ala Phe Gly Gly Ser Tyr Gly Gly
    130                 135                 140

Met Leu Ser Ala Tyr Leu Arg Met Lys Tyr Pro His Leu Val Ala Gly
145                 150                 155                 160

Ala Leu Ala Ala Ser Ala Pro Val Leu Ala Val Ala Gly Leu Gly Asp
                165                 170                 175

Ser Asn Gln Phe Phe Arg Asp Val Thr Ala Asp Phe Glu Gly Gln Ser
            180                 185                 190

Pro Lys Cys Thr Gln Gly Val Arg Glu Ala Phe Arg Gln Ile Lys Asp
        195                 200                 205
```

```
Leu Phe Leu Gln Gly Ala Tyr Asp Thr Val Arg Trp Glu Phe Gly Thr
    210                 215                 220

Cys Gln Pro Leu Ser Asp Glu Lys Asp Leu Thr Gln Leu Phe Met Phe
225                 230                 235                 240

Ala Arg Asn Ala Phe Thr Val Leu Ala Met Met Asp Tyr Pro Tyr Pro
                245                 250                 255

Thr Asp Phe Leu Gly Pro Leu Pro Ala Asn Pro Val Lys Val Gly Cys
            260                 265                 270

Asp Arg Leu Leu Ser Glu Ala Gln Arg Ile Thr Gly Leu Arg Ala Leu
        275                 280                 285

Ala Gly Leu Val Tyr Asn Ala Ser Gly Ser Glu His Cys Tyr Asp Ile
    290                 295                 300

Tyr Arg Leu Tyr His Ser Cys Ala Asp Pro Thr Gly Cys Gly Thr Gly
305                 310                 315                 320

Pro Asp Ala Arg Ala Trp Asp Tyr Gln Ala Cys Thr Glu Ile Asn Leu
                325                 330                 335

Thr Phe Ala Ser Asn Asn Val Thr Asp Met Phe Pro Asp Leu Pro Phe
            340                 345                 350

Thr Asp Glu Leu Arg Gln Arg Tyr Cys Leu Asp Thr Trp Gly Val Trp
        355                 360                 365

Pro Arg Pro Asp Trp Leu Leu Thr Ser Phe Trp Gly Gly Asp Leu Arg
    370                 375                 380

Ala Ala Ser Asn Ile Ile Phe Ser Asn Gly Asn Leu Asp Pro Trp Ala
385                 390                 395                 400
```

```
Gly Gly Gly Ile Arg Arg Asn Leu Ser Ala Ser Val Ile Ala Val Thr
                405                 410                 415


Ile Gln Gly Gly Ala His His Leu Asp Leu Arg Ala Ser His Pro Glu
            420                 425                 430


Asp Pro Ala Ser Val Val Glu Ala Arg Lys Leu Glu Ala Thr Ile Ile
        435                 440                 445


Gly Glu Trp Val Lys Ala Ala Arg Arg Glu Gln Gln Pro Ala Leu Arg
    450                 455                 460


Gly Gly Pro Arg Leu Ser Leu
465                 470


<210>  71
<211>  275
<212>  PRT
<213>  HOMO SAPIENS

<400>  71

Ala Pro Ala Pro His Arg Ala Ser Tyr Lys Pro Val Ile Val Val His
1               5                   10                  15


Gly Leu Phe Asp Ser Ser Tyr Ser Phe Arg His Leu Leu Glu Tyr Ile
            20                  25                  30


Asn Glu Thr His Pro Gly Thr Val Val Thr Val Leu Asp Leu Phe Asp
        35                  40                  45


Gly Arg Glu Ser Leu Arg Pro Leu Trp Glu Gln Val Gln Gly Phe Arg
    50                  55                  60


Glu Ala Val Val Pro Ile Met Ala Lys Ala Pro Gln Gly Val His Leu
65                  70                  75                  80
```

```
Ile Cys Tyr Ser Gln Gly Gly Leu Val Cys Arg Ala Leu Leu Ser Val
                85                  90                  95


Met Asp Asp His Asn Val Asp Ser Phe Ile Ser Leu Ser Ser Pro Gln
            100                 105                 110


Met Gly Gln Tyr Gly Asp Thr Asp Tyr Leu Lys Trp Leu Phe Pro Thr
        115                 120                 125


Ser Met Arg Ser Asn Leu Tyr Arg Ile Cys Tyr Ser Pro Trp Gly Gln
    130                 135                 140


Glu Phe Ser Ile Cys Asn Tyr Trp His Asp Pro His His Asp Asp Leu
145                 150                 155                 160


Tyr Leu Asn Ala Ser Ser Phe Leu Ala Leu Ile Asn Gly Glu Arg Asp
                165                 170                 175


His Pro Asn Ala Thr Val Trp Arg Lys Asn Phe Leu Arg Val Gly His
            180                 185                 190


Leu Val Leu Ile Gly Gly Pro Asp Asp Gly Val Ile Thr Pro Trp Gln
        195                 200                 205


Ser Ser Phe Phe Gly Phe Tyr Asp Ala Asn Glu Thr Val Leu Glu Met
    210                 215                 220


Glu Glu Gln Leu Val Tyr Leu Arg Asp Ser Phe Gly Leu Lys Thr Leu
225                 230                 235                 240


Leu Ala Arg Gly Ala Ile Val Arg Cys Pro Met Ala Gly Ile Ser His
                245                 250                 255


Thr Ala Trp His Ser Asn Arg Thr Leu Tyr Glu Thr Cys Ile Glu Pro
            260                 265                 270
```

```
Trp Leu Ser
        275


<210>  72
<211>  508
<212>  PRT
<213>  HOMO SAPIENS

<400>  72

Gln Asp Val Val Asp Leu Asp Phe Phe Thr Gln Glu Pro Leu His Leu
1               5                   10                  15


Val Ser Pro Ser Phe Leu Ser Val Thr Ile Asp Ala Asn Leu Ala Thr
            20                  25                  30


Asp Pro Arg Phe Leu Ile Leu Leu Gly Ser Pro Lys Leu Arg Thr Leu
        35                  40                  45


Ala Arg Gly Leu Ser Pro Ala Tyr Leu Arg Phe Gly Gly Thr Lys Thr
    50                  55                  60


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


Ser Tyr Trp Gln Ser Gln Val Asn Gln Asp Ile Cys Lys Tyr Gly Ser
                85                  90                  95


Ile Pro Pro Asp Val Glu Glu Lys Leu Arg Leu Glu Trp Pro Tyr Gln
            100                 105                 110


Glu Gln Leu Leu Leu Arg Glu His Tyr Gln Lys Lys Phe Lys Asn Ser
        115                 120                 125


Thr Tyr Ser Arg Ser Ser Val Asp Val Leu Tyr Thr Phe Ala Asn Cys
    130                 135                 140
```

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


Asp Leu Gln Trp Asn Ser Ser Asn Ala Gln Leu Leu Leu Asp Tyr Cys
                165                 170                 175


Ser Ser Lys Gly Tyr Asn Ile Ser Trp Glu Leu Gly Asn Glu Pro Asn
            180                 185                 190


Ser Phe Leu Lys Lys Ala Asp Ile Phe Ile Asn Gly Ser Gln Leu Gly
        195                 200                 205


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


Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly Gln Pro Arg Arg Lys Thr
225                 230                 235                 240


Ala Lys Met Leu Lys Ser Phe Leu Lys Ala Gly Gly Glu Val Ile Asp
                245                 250                 255


Ser Val Thr Trp His His Tyr Tyr Leu Asn Gly Arg Thr Ala Thr Lys
            260                 265                 270


Glu Asp Phe Leu Asn Pro Asp Val Leu Asp Ile Phe Ile Ser Ser Val
        275                 280                 285


Gln Lys Val Phe Gln Val Val Glu Ser Thr Arg Pro Gly Lys Lys Val
    290                 295                 300


Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly Gly Gly Ala Pro Leu Leu
305                 310                 315                 320


Ser Asp Thr Phe Ala Ala Gly Phe Met Trp Leu Asp Lys Leu Gly Leu
                325                 330                 335
```

```
Ser Ala Arg Met Gly Ile Glu Val Val Met Arg Gln Val Phe Phe Gly
            340                 345                 350

Ala Gly Asn Tyr His Leu Val Asp Glu Asn Phe Asp Pro Leu Pro Asp
        355                 360                 365

Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu Val Gly Thr Lys Val Leu
    370                 375                 380

Met Ala Ser Val Gln Gly Ser Lys Arg Arg Lys Leu Arg Val Tyr Leu
385                 390                 395                 400

His Cys Thr Asn Thr Asp Asn Pro Arg Tyr Lys Glu Gly Asp Leu Thr
                405                 410                 415

Leu Tyr Ala Ile Asn Leu His Asn Val Thr Lys Tyr Leu Arg Leu Pro
            420                 425                 430

Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys Tyr Leu Leu Arg Pro Leu
        435                 440                 445

Gly Pro His Gly Leu Leu Ser Lys Ser Val Gln Leu Asn Gly Leu Thr
    450                 455                 460

Leu Lys Met Val Asp Asp Gln Thr Leu Pro Pro Leu Met Glu Lys Pro
465                 470                 475                 480

Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro Ala Phe Ser Tyr Ser Phe
                485                 490                 495

Phe Val Ile Arg Asn Ala Lys Val Ala Ala Cys Ile
            500                 505
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<210> 73
<211> 452
<212> PRT
<213> HOMO SAPIENS

<400> 73

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Lys Ala Ile Cys Lys Asn Gly Ile Ser Lys Arg Thr Phe Glu Glu Ile
1               5                   10                  15


Lys Glu Glu Ile Ala Ser Cys Gly Asp Val Ala Lys Ala Ile Ile Asn
            20                  25                  30


Leu Ala Val Tyr Gly Lys Ala Gln Asn Arg Ser Tyr Glu Arg Leu Ala
        35                  40                  45


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


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


Glu Lys Val His Leu Glu Pro Val Arg Ile Pro His Trp Glu Arg Gly
                85                  90                  95


Glu Glu Ser Ala Val Met Leu Glu Pro Arg Ile His Lys Ile Ala Ile
            100                 105                 110


Leu Gly Leu Gly Ser Ser Ile Gly Thr Pro Pro Glu Gly Ile Thr Ala
        115                 120                 125


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


Glu Ala Arg Gly Lys Ile Val Val Tyr Asn Gln Pro Tyr Ile Asn Tyr
145                 150                 155                 160


Ser Arg Thr Val Gln Tyr Arg Thr Gln Gly Ala Val Glu Ala Ala Lys
                165                 170                 175


Val Gly Ala Leu Ala Ser Leu Ile Arg Ser Val Ala Ser Phe Ser Ile
```

```
            180                 185                 190

Tyr Ser Pro His Thr Gly Ile Gln Glu Tyr Gln Asp Gly Val Pro Lys
        195                 200                 205

Ile Pro Thr Ala Cys Ile Thr Val Glu Asp Ala Glu Met Met Ser Arg
    210                 215                 220

Met Ala Ser His Gly Ile Lys Ile Val Ile Gln Leu Lys Met Gly Ala
225                 230                 235                 240

Lys Thr Tyr Pro Asp Thr Asp Ser Phe Asn Thr Val Ala Glu Ile Thr
                245                 250                 255

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

Ser Trp Asp Val Gly Gln Gly Ala Met Asp Asp Gly Gly Gly Ala Phe
        275                 280                 285

Ile Ser Trp Glu Ala Leu Ser Leu Ile Lys Asp Leu Gly Leu Arg Pro
    290                 295                 300

Lys Arg Thr Leu Arg Leu Val Leu Trp Thr Ala Glu Glu Gln Gly Gly
305                 310                 315                 320

Val Gly Ala Phe Gln Tyr Tyr Gln Leu His Lys Val Asn Ile Ser Asn
                325                 330                 335

Tyr Ser Leu Val Met Glu Ser Asp Ala Gly Thr Phe Leu Pro Thr Gly
            340                 345                 350

Leu Gln Phe Thr Gly Ser Glu Lys Ala Arg Ala Ile Met Glu Glu Val
        355                 360                 365

Met Ser Leu Leu Gln Pro Leu Asn Ile Thr Gln Val Leu Ser His Gly
```

370 375 380

Glu Gly Thr Asp Ile Asn Phe Trp Ile Gln Ala Gly Val Pro Gly Ala
385 390 395 400

Ser Leu Leu Asp Asp Leu Tyr Lys Tyr Phe Phe Phe His His Ser His
405 410 415

Gly Asp Thr Met Thr Val Met Asp Pro Lys Gln Met Asn Val Ala Ala
420 425 430

Ala Val Trp Ala Val Val Ser Tyr Val Val Ala Asp Met Glu Glu Met
435 440 445

Leu Pro Arg Ser
450

<210> 74
<211> 341
<212> PRT
<213> HOMO SAPIENS

<400> 74

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

Cys Gly Cys Gly Thr Pro Gln Arg Pro Gly Ala His Gly Ser Ser Ala
20 25 30

Ala Ala His Arg Tyr Ser Arg Glu Ala Asn Ala Pro Gly Pro Val Pro
35 40 45

Gly Glu Arg Gln Leu Ala His Ser Lys Met Val Pro Ile Pro Ala Gly
50 55 60

Val Phe Thr Met Gly Thr Asp Asp Pro Gln Ile Lys Gln Asp Gly Glu
65 70 75 80

```
Ala Pro Ala Arg Arg Val Thr Ile Asp Ala Phe Tyr Met Asp Ala Tyr
                85                  90                  95

Glu Val Ser Asn Thr Glu Phe Glu Lys Phe Val Asn Ser Thr Gly Tyr
            100                 105                 110

Leu Thr Glu Ala Glu Lys Phe Gly Asp Ser Phe Val Phe Glu Gly Met
        115                 120                 125

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

Pro Trp Trp Leu Pro Val Lys Gly Ala Asn Trp Arg His Pro Glu Gly
145                 150                 155                 160

Pro Asp Ser Thr Ile Leu His Arg Pro Asp His Pro Val Leu His Val
                165                 170                 175

Ser Trp Asn Asp Ala Val Ala Tyr Cys Thr Trp Ala Gly Lys Arg Leu
            180                 185                 190

Pro Thr Glu Ala Glu Trp Glu Tyr Ser Cys Arg Gly Gly Leu His Asn
        195                 200                 205

Arg Leu Phe Pro Trp Gly Asn Lys Leu Gln Pro Lys Gly Gln His Tyr
    210                 215                 220

Ala Asn Ile Trp Gln Gly Glu Phe Pro Val Thr Asn Thr Gly Glu Asp
225                 230                 235                 240

Gly Phe Gln Gly Thr Ala Pro Val Asp Ala Phe Pro Pro Asn Gly Tyr
                245                 250                 255

Gly Leu Tyr Asn Ile Val Gly Asn Ala Trp Glu Trp Thr Ser Asp Trp
            260                 265                 270
```

```
Trp Thr Val His His Ser Val Glu Glu Thr Leu Asn Pro Lys Gly Pro
        275                 280                 285

Pro Ser Gly Lys Asp Arg Val Lys Lys Gly Gly Ser Tyr Met Cys His
    290                 295                 300

Arg Ser Tyr Cys Tyr Arg Tyr Arg Cys Ala Ala Arg Ser Gln Asn Thr
305                 310                 315                 320

Pro Asp Ser Ser Ala Ser Asn Leu Gly Phe Arg Cys Ala Ala Asp Arg
                325                 330                 335

Leu Pro Thr Met Asp
            340
```