SEQUENCE LISTING

<110> SMITHKLINE BEECHAM CORPORATION
SMITHKLINE BEECHAM p.l.c.
GLAXO GROUP, LIMITED

<120> NOVEL COMPOUNDS

<130> GP50034

<140> TO BE ASSIGNED
<141> 2001-09-13

<150> 60/232,463
<151> 2000-09-13

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<150> 60/237,293
<151> 2000-10-02

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<151> 2000-11-07

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gccggcgccc ccacagaaag ccaagcgctc cgtgccgcca gcctcgcccg cccgcgcgcc 2460
cccagcgacc gaaaccccgg ggcctgagaa ggcggcgacc gacttgcccg cgcctgagac 2520
cccccggaag aagacccccа tccagaagcc gccgcgcaag aagagccggg aggcggcggg 2580
cgagctgggc agggcgggcg cacccaccct gtag 2614

<210> 43
<211> 402
<212> DNA
<213> Homo sapiens

<400> 43
atcgactgcc gcgcggagca gggccgtacg ccgctcatgg tggccgtggg gctgccggac 60
cccgcgctgc gcgcgcgctt cgtgcggctg ctgctcgagc agggtgctgc agtgaacctg 120
cgagacgagc gcggccgcac cgcactcagc ctggcgtgcg agcgaggcca cctggacgcc 180
gtgcagctgc tggtgcagtt cagcggtgac cccgaggcgg ccgactctgc gggcaacagc 240
ccggtgatgt gggcggcggc ctgcggccac ggggcggtgc tcgagttcct ggtgcggtcc 300
ttccgccgcc taggcctgcg cctcgaccgc accaaccgtg cggggctcac cgcgctgcaa 360
ctggccgccg cccgcggcca cgggacctgt gtgcaggccc tc 402

<210> 44
<211> 975
<212> DNA
<213> Homo sapiens

<400> 44
atgctcaaac ccaaggacct gtgcccccga gcggggacgc gcaccttcct ggaggccatg 60
caggcgggca aagtgcactt ggcccgcttc gtgttggatg cgctggaccg cagcatcatc 120
gactgccgcg cggagcaggg ccgtacgccg ctcatggtgg ccgtggggct gccggacccc 180
gcgctgcgcg cgcgcttcgt gcggctgctg ctcgagcagg gtgctgcagt gaacctgcga 240
gacgagcgcg gccgcaccgc actcagcctg gcgtgcgagc gaggccacct ggacgccgtg 300
cagctgctgg tgcagttcag cggtgacccc gaggcggccg actctgcggg caacagcccg 360
gtgatgtggg cggcggcctg cggccacggg gcggtgctcg agttcctggt gcggtccttc 420
cgccgcctag gcctgcgcct cgaccgcacc aaccgtgcgg ggctcaccgc gctgcaactg 480
gccgccgccc gcggccacgg gacctcggcg ggcggccacg gcggcgaggc tggctcagcg 540
ggcaagaatt cgggccggca ccgggcgcag ggcagcgaac ggcccgagct gggtcggagc 600
atgagcctgg ctctaggtgc ggtaaccgag gaggaggctg cccgcctgcg ggctggggcc 660
ctgatggccc taccaaactc gccccagtct tcggggactg ggcggtggcg ctcacaggag 720
gtgctggagg gagcgccccc aaccttagcg caagccccca ttggcctcag tccccacccg 780
gagggcggcc ccggctctgg ccgcctgggt ttgcgccgac gctccacagc cccagatatc 840
cccagcctgg tcggggaggc gccagggccc gagagtggcc cggagttaga ggccaacgct 900
ctgtctgtct cggtgcctgg gccgaaccct tggcaggcgg gcaccgaggc tgtggtgctg 960
cgtgctcagc ggtaa 975

<210> 45
<211> 568
<212> PRT
<213> homo sapiens

<400> 45

```
Met Lys Glu Ala Glu Met Asp Gly Glu Ala Val Arg Phe Cys Thr Asp
 1               5                  10                  15
Asn Gln Cys Val Ser Leu His Pro Gln Glu Val Asp Ser Val Ala Met
            20                  25                  30
Ala Pro Ala Ala Pro Lys Ile Pro Arg Leu Val Gln Ala Thr Pro Ala
        35                  40                  45
Phe Met Ala Val Thr Leu Val Phe Ser Leu Val Thr Leu Phe Val Val
    50                  55                  60
Gly Lys Pro Pro Val Gln Gln Gln Thr Arg Pro Val Pro Lys Pro Val
65                  70                  75                  80
Gln Ala Val Ile Leu Gly Asp Asn Ile Thr Gly His Leu Pro Phe Glu
                85                  90                  95
Pro Asn Asn His His His Phe Gly Arg Glu Ala Glu Met Arg Glu Leu
            100                 105                 110
Ile Gln Thr Phe Lys Gly His Met Glu Asn Ser Ser Ala Trp Val Val
        115                 120                 125
Glu Ile Gln Met Leu Lys Cys Arg Val Asp Asn Val Asn Ser Gln Leu
    130                 135                 140
Gln Val Leu Gly Asp His Leu Gly Asn Thr Asn Ala Asp Ile Gln Met
145                 150                 155                 160
Val Lys Gly Val Leu Lys Asp Ala Thr Thr Leu Ser Leu Gln Thr Gln
                165                 170                 175
Met Leu Arg Ser Ser Leu Glu Gly Thr Asn Ala Glu Ile Gln Arg Leu
            180                 185                 190
Lys Glu Asp Leu Glu Lys Ala Asp Ala Leu Thr Phe Gln Thr Leu Asn
        195                 200                 205
Phe Leu Lys Ser Ser Leu Glu Asn Thr Ser Ile Glu Leu His Val Leu
    210                 215                 220
Ser Arg Gly Leu Glu Asn Ala Asn Ser Glu Ile Gln Met Leu Asn Ala
225                 230                 235                 240
Arg Ala Asn Ala Glu Ile Gln Gly Leu Lys Glu Asn Leu Gln Asn Thr
                245                 250                 255
Asn Ala Leu Asn Ser Gln Thr Gln Ala Phe Ile Lys Ser Ser Phe Asp
            260                 265                 270
Asn Thr Ser Ala Glu Ile Gln Phe Leu Arg Gly His Leu Glu Arg Ala
        275                 280                 285
Gly Asp Glu Ile His Val Leu Lys Arg Asp Leu Lys Met Val Thr Ala
    290                 295                 300
Gln Thr Gln Lys Ala Asn Gly Arg Leu Asp Gln Thr Asp Thr Gln Ile
305                 310                 315                 320
Gln Val Phe Lys Ser Glu Met Glu Asn Val Asn Thr Leu Asn Ala Gln
                325                 330                 335
Ile Gln Val Leu Asn Gly His Met Lys Asn Ala Ser Arg Glu Ile Gln
            340                 345                 350
Thr Leu Lys Gln Gly Met Lys Asn Ala Ser Ala Leu Thr Ser Gln Thr
        355                 360                 365
Gln Met Leu Asp Ser Asn Leu Gln Lys Ala Ser Ala Glu Ile Gln Arg
    370                 375                 380
Leu Arg Gly Asp Leu Glu Asn Thr Lys Ala Leu Thr Met Glu Ile Gln
385                 390                 395                 400
Gln Glu Gln Ser Arg Leu Lys Thr Leu His Val Val Ile Thr Ser Gln
                405                 410                 415
```

Glu Gln Leu Gln Arg Thr Gln Ser Gln Leu Leu Gln Met Val Leu Gln
420 425 430
Gly Trp Lys Phe Asn Gly Gly Ser Leu Tyr Tyr Phe Ser Ser Val Lys
435 440 445
Lys Ser Trp His Glu Ala Glu Gln Phe Cys Val Ser Gln Gly Ala His
450 455 460
Leu Ala Ser Val Ala Ser Lys Glu Glu Gln Ala Phe Leu Val Glu Phe
465 470 475 480
Thr Ser Lys Val Tyr Tyr Trp Ile Gly Leu Thr Asp Arg Gly Thr Glu
485 490 495
Gly Ser Trp Arg Trp Thr Asp Gly Thr Pro Phe Asn Ala Ala Gln Asn
500 505 510
Lys Ala Pro Val Val Phe Gly Phe Trp Glu Lys Asn Gln Ser Asp Asn
515 520 525
Trp Arg His Lys Asn Gly Gln Thr Glu Asp Cys Val Gln Ile Gln Gln
530 535 540
Lys Trp Asn Asp Met Thr Cys Asp Thr Pro Tyr Gln Trp Val Cys Lys
545 550 555 560
Lys Pro Met Gly Gln Gly Val Ala
565

<210> 46
<211> 364
<212> PRT
<213> homo sapiens

<400> 46
Met Ser Arg Gln Gly Lys Leu Phe Ser Ala Phe Gly Val Gly Cys Cys
1 5 10 15
Val Thr Ala Gly Leu Pro Lys Asp Asp Asn Thr Pro Ser Thr Ile Ala
20 25 30
Asp Val His Asn Gly Tyr Thr Met Asn Val Val Glu Gln Val Leu Lys
35 40 45
Asp Ser Phe Val Leu Phe Phe Pro Gly Thr Leu Cys Asp Phe Pro Lys
50 55 60
Ile His His Gly Phe Leu Tyr Asp Glu Glu Asp Tyr Asn Pro Phe Ser
65 70 75 80
Gln Val Pro Thr Gly Glu Val Phe Tyr Tyr Ser Cys Glu Tyr Asn Phe
85 90 95
Val Ser Pro Ser Lys Ser Phe Trp Thr Arg Ile Thr Cys Thr Glu Glu
100 105 110
Gly Trp Ser Pro Thr Pro Lys Cys Leu Arg Met Cys Ser Phe Pro Phe
115 120 125
Val Lys Asn Gly His Ser Glu Ser Ser Gly Leu Ile His Leu Glu Gly
130 135 140
Asp Thr Val Gln Ile Ile Cys Asn Thr Gly Tyr Ser Leu Gln Asn Asn
145 150 155 160
Glu Lys Asn Ile Ser Cys Val Glu Arg Gly Trp Ser Thr Pro Pro Ile
165 170 175
Cys Ser Phe Thr Met Lys Thr Cys Gly Tyr Ile Pro Glu Leu Glu Tyr
180 185 190
Gly Tyr Val Gln Pro Ser Val Pro Pro Tyr Gln His Gly Val Ser Val
195 200 205
Glu Val Asn Cys Arg Asn Glu Tyr Ala Met Ile Gly Asn Asn Met Ile
210 215 220
Thr Cys Ile Asn Gly Ile Trp Thr Glu Leu Pro Met Cys Val Glu Ser
225 230 235 240
Thr Ala Tyr Cys Gly Pro Pro Pro Ser Ile Asn Asn Gly Asp Thr Thr

```
                245                 250                 255
Ser Phe Pro Leu Ser Val Tyr Pro Pro Gly Ser Thr Val Thr Tyr Arg
            260                 265                 270
Cys Gln Ser Phe Tyr Lys Leu Gln Gly Ser Val Thr Val Thr Cys Arg
        275                 280                 285
Asn Lys Gln Trp Ser Glu Pro Pro Arg Cys Leu Asp Pro Cys Val Val
    290                 295                 300
Ser Glu Glu Asn Met Asn Lys Asn Asn Ile Gln Leu Lys Trp Arg Asn
305                 310                 315                 320
Asp Gly Lys Leu Tyr Ala Lys Thr Gly Asp Ala Val Glu Phe Gln Cys
                325                 330                 335
Lys Phe Pro His Lys Ala Met Ile Ser Ser Pro Pro Phe Arg Ala Ile
            340                 345                 350
Cys Gln Glu Gly Lys Phe Glu Tyr Pro Ile Cys Glu
        355                 360
```

<210> 47
<211> 327
<212> PRT
<213> homo sapiens

<400> 47

```
Met Leu Leu Leu Phe Ser Val Ile Leu Ile Ser Trp Val Ser Thr Val
 1               5                  10                  15
Gly Gly Glu Gly Thr Leu Cys Asp Phe Pro Lys Ile His His Gly Phe
            20                  25                  30
Leu Tyr Asp Glu Glu Asp Tyr Asn Pro Phe Ser Gln Val Pro Thr Gly
        35                  40                  45
Glu Val Phe Tyr Tyr Ser Cys Glu Tyr Asn Phe Val Ser Pro Ser Lys
    50                  55                  60
Ser Phe Trp Thr Arg Ile Thr Cys Thr Glu Glu Gly Trp Ser Pro Thr
65                  70                  75                  80
Pro Lys Cys Leu Arg Met Cys Ser Phe Pro Phe Val Lys Asn Gly His
                85                  90                  95
Ser Glu Ser Ser Gly Leu Ile His Leu Glu Gly Asp Thr Val Gln Ile
            100                 105                 110
Ile Cys Asn Thr Gly Tyr Ser Leu Gln Asn Asn Glu Lys Asn Ile Ser
        115                 120                 125
Cys Val Glu Arg Gly Trp Ser Thr Pro Pro Ile Cys Ser Phe Thr Met
    130                 135                 140
Lys Thr Cys Gly Tyr Ile Pro Glu Leu Glu Tyr Gly Tyr Val Gln Pro
145                 150                 155                 160
Ser Val Pro Pro Tyr Gln His Gly Val Ser Val Glu Val Asn Cys Arg
                165                 170                 175
Asn Glu Tyr Ala Met Ile Gly Asn Asn Met Ile Thr Cys Ile Asn Gly
            180                 185                 190
Ile Trp Thr Glu Leu Pro Met Cys Val Glu Ser Thr Ala Tyr Cys Gly
        195                 200                 205
Pro Pro Pro Ser Ile Asn Asn Gly Asp Thr Thr Ser Phe Pro Leu Ser
    210                 215                 220
Val Tyr Pro Pro Gly Ser Thr Val Thr Tyr Arg Cys Gln Ser Phe Tyr
225                 230                 235                 240
Lys Leu Gln Gly Ser Val Thr Val Thr Cys Arg Asn Lys Gln Trp Ser
                245                 250                 255
Glu Pro Pro Arg Cys Leu Asp Pro Cys Val Val Ser Glu Glu Asn Met
            260                 265                 270
Asn Lys Asn Asn Ile Gln Leu Lys Trp Arg Asn Asp Gly Lys Leu Tyr
        275                 280                 285
```

```
Ala Lys Thr Gly Asp Ala Val Glu Phe Gln Cys Lys Phe Pro His Lys
    290                 295                 300
Ala Met Ile Ser Ser Pro Pro Phe Arg Ala Ile Cys Gln Glu Gly Lys
305                 310                 315                 320
Phe Glu Tyr Pro Ile Cys Glu
                325
```

<210> 48
<211> 154
<212> PRT
<213> homo sapiens

<400> 48

```
Met Ala Pro Ala Arg Ala Gly Cys Cys Pro Leu Leu Leu Leu Leu Leu
 1               5                  10                  15
Gly Leu Trp Val Ala Glu Val Leu Val Arg Ala Lys Pro Lys Asp Met
            20                  25                  30
Thr Ser Ser Gln Trp Phe Lys Thr Gln His Val Gln Pro Ser Pro Gln
        35                  40                  45
Ala Cys Asn Ser Ala Met Ser Ile Ile Asn Lys Tyr Thr Glu Arg Cys
    50                  55                  60
Lys Asp Leu Asn Thr Phe Leu His Glu Pro Phe Ser Ser Val Ala Ile
65                  70                  75                  80
Thr Cys Gln Thr Pro Asn Ile Ala Cys Lys Asn Ser Cys Lys Asn Cys
                85                  90                  95
His Gln Ser His Gly Pro Met Ser Leu Thr Met Gly Glu Leu Thr Ser
            100                 105                 110
Gly Lys Tyr Pro Asn Cys Arg Tyr Lys Glu Lys His Leu Asn Thr Pro
        115                 120                 125
Tyr Ile Val Ala Cys Asp Pro Pro Gln Gln Gly Asp Pro Gly Tyr Pro
    130                 135                 140
Leu Val Pro Val His Leu Asp Lys Val Val
145                 150
```

<210> 49
<211> 502
<212> PRT
<213> homo sapiens

<400> 49

```
Met Arg Gln Leu Gly Gly Ser Leu Arg Pro Pro Arg Ala Ala His Gly
 1               5                  10                  15
Ala Glu Pro Leu Pro Ser Ala Leu Gly Pro Cys Ala Gly Gly Asp Arg
            20                  25                  30
Asp Leu Gly Arg Gly Thr Pro Gly Trp Glu Pro Arg Arg Ala Arg Val
        35                  40                  45
Pro Ile His Glu Gln Val Asp Pro Pro Arg Glu Gly Pro His Leu Phe
    50                  55                  60
Gln Asn Leu Leu Leu Phe Leu Trp Ala Leu Leu Asn Cys Gly Leu Gly
65                  70                  75                  80
Val Ser Ala Gln Gly Pro Gly Glu Trp Thr Pro Trp Val Ser Trp Thr
                85                  90                  95
Arg Cys Ser Ser Ser Cys Gly Arg Gly Val Ser Val Arg Ser Arg Arg
            100                 105                 110
Cys Leu Arg Leu Pro Gly Glu Glu Pro Cys Trp Gly Asp Ser His Glu
        115                 120                 125
Tyr Arg Leu Cys Gln Leu Pro Asp Cys Pro Pro Gly Ala Val Pro Phe
```

```
    130                 135                 140
Arg Asp Leu Gln Cys Ala Leu Tyr Asn Gly Arg Pro Val Leu Gly Thr
145                 150                 155                 160
Gln Lys Thr Tyr Gln Trp Val Pro Phe His Gly Ala Pro Asn Gln Cys
                165                 170                 175
Asp Leu Asn Cys Leu Ala Glu Gly His Ala Phe Tyr His Ser Phe Gly
            180                 185                 190
Arg Val Leu Asp Gly Thr Ala Cys Ser Pro Gly Ala Gln Gly Val Cys
        195                 200                 205
Val Ala Gly Arg Cys Leu Ser Ala Gly Cys Asp Gly Leu Leu Gly Ser
    210                 215                 220
Gly Ala Leu Glu Asp Arg Cys Gly Arg Cys Gly Gly Ala Asn Asp Ser
225                 230                 235                 240
Cys Leu Phe Val Gln Arg Val Phe Arg Asp Ala Gly Ala Phe Ala Gly
                245                 250                 255
Tyr Trp Asn Val Thr Leu Ile Pro Glu Gly Ala Arg His Ile Arg Val
            260                 265                 270
Glu His Arg Ser Arg Asn His Leu Gly Ile Leu Gly Ser Leu Met Gly
        275                 280                 285
Gly Asp Gly Arg Tyr Val Leu Asn Gly His Trp Val Val Ser Pro Pro
    290                 295                 300
Gly Thr Tyr Glu Ala Ala Gly Thr His Val Val Tyr Thr Arg Asp Thr
305                 310                 315                 320
Gly Pro Gln Glu Thr Leu Gln Ala Ala Gly Pro Thr Ser His Asp Leu
                325                 330                 335
Leu Leu Gln Val Leu Leu Gln Glu Pro Asn Pro Gly Ile Glu Phe Glu
            340                 345                 350
Phe Trp Leu Pro Arg Glu Arg Tyr Ser Pro Phe Gln Ala Arg Val Gln
        355                 360                 365
Ala Leu Gly Trp Pro Leu Arg Gln Pro Gln Pro Arg Gly Val Glu Pro
    370                 375                 380
Gln Pro Pro Ala Ala Pro Ala Val Thr Pro Ala Gln Thr Pro Thr Leu
385                 390                 395                 400
Ala Pro Val Phe Gln Ala Arg Val Leu Gly His His His Gln Ala Gln
                405                 410                 415
Glu Thr Arg Tyr Glu Val Arg Ile Gln Leu Val Tyr Lys Asn Arg Ser
            420                 425                 430
Pro Leu Arg Ala Arg Glu Tyr Val Trp Ala Pro Gly His Cys Pro Cys
        435                 440                 445
Pro Met Leu Ala Pro His Arg Asp Tyr Leu Met Ala Val Gln Arg Leu
    450                 455                 460
Val Ser Pro Asp Gly Thr Gln Asp Gln Leu Leu Leu Pro His Ala Gly
465                 470                 475                 480
Tyr Ala Arg Pro Trp Ser Pro Ala Glu Asp Ser Arg Ile Arg Leu Thr
                485                 490                 495
Ala Arg Arg Cys Pro Gly
            500
```

<210> 50
<211> 451
<212> PRT
<213> homo sapiens

<400> 50

```
Met Asp Ser Ala Pro Leu Phe Pro Arg Pro His Leu Phe Gln Asn Leu
 1               5                  10                  15
Leu Leu Phe Leu Trp Ala Leu Leu Asn Cys Gly Leu Gly Val Ser Ala
            20                  25                  30
```

```
Gln Gly Pro Gly Glu Trp Thr Pro Trp Val Ser Trp Thr Arg Cys Ser
        35                  40                  45
Ser Ser Cys Gly Arg Gly Val Ser Val Arg Ser Arg Arg Cys Leu Arg
    50                  55                  60
Leu Pro Gly Glu Glu Pro Cys Trp Gly Asp Ser His Glu Tyr Arg Leu
65                  70                  75                  80
Cys Gln Leu Pro Asp Cys Pro Pro Gly Ala Val Pro Phe Arg Asp Leu
                85                  90                  95
Gln Cys Ala Leu Tyr Asn Gly Arg Pro Val Leu Gly Thr Gln Lys Thr
            100                 105                 110
Tyr Gln Trp Val Pro Phe His Gly Ala Pro Asn Gln Cys Asp Leu Asn
        115                 120                 125
Cys Leu Ala Glu Gly His Ala Phe Tyr His Ser Phe Gly Arg Val Leu
    130                 135                 140
Asp Gly Thr Ala Cys Ser Pro Gly Ala Gln Gly Val Cys Val Ala Gly
145                 150                 155                 160
Arg Cys Leu Ser Ala Gly Cys Asp Gly Leu Leu Gly Ser Gly Ala Leu
                165                 170                 175
Glu Asp Arg Cys Gly Arg Cys Gly Gly Ala Asn Asp Ser Cys Leu Phe
            180                 185                 190
Val Gln Arg Val Phe Arg Asp Ala Gly Ala Phe Ala Gly Tyr Trp Asn
        195                 200                 205
Val Thr Leu Ile Pro Glu Gly Ala Arg His Ile Arg Val Glu His Arg
    210                 215                 220
Ser Arg Asn His Leu Gly Ile Leu Gly Ser Leu Met Gly Gly Asp Gly
225                 230                 235                 240
Arg Tyr Val Leu Asn Gly His Trp Val Val Ser Pro Pro Gly Thr Tyr
                245                 250                 255
Glu Ala Ala Gly Thr His Val Val Tyr Thr Arg Asp Thr Gly Pro Gln
            260                 265                 270
Glu Thr Leu Gln Ala Ala Gly Pro Thr Ser His Asp Leu Leu Leu Gln
        275                 280                 285
Val Leu Leu Gln Glu Pro Asn Pro Gly Ile Glu Phe Glu Phe Trp Leu
    290                 295                 300
Pro Arg Glu Arg Tyr Ser Pro Phe Gln Ala Arg Val Gln Ala Leu Gly
305                 310                 315                 320
Trp Pro Leu Arg Gln Pro Gln Pro Arg Gly Val Glu Pro Gln Pro Pro
                325                 330                 335
Ala Ala Pro Ala Val Thr Pro Ala Gln Thr Pro Thr Leu Ala Pro Val
            340                 345                 350
Phe Gln Ala Arg Val Leu Gly His His His Gln Ala Gln Glu Thr Arg
        355                 360                 365
Tyr Glu Val Arg Ile Gln Leu Val Tyr Lys Asn Arg Ser Pro Leu Arg
    370                 375                 380
Ala Arg Glu Tyr Val Trp Ala Pro Gly His Cys Pro Cys Pro Met Leu
385                 390                 395                 400
Ala Pro His Arg Asp Tyr Leu Met Ala Val Gln Arg Leu Val Ser Pro
                405                 410                 415
Asp Gly Thr Gln Asp Gln Leu Leu Leu Pro His Ala Gly Tyr Ala Arg
            420                 425                 430
Pro Trp Ser Pro Ala Glu Asp Ser Arg Ile Arg Leu Thr Ala Arg Arg
        435                 440                 445
Cys Pro Gly
    450
```

<210> 51
<211> 431
<212> PRT

<213> homo sapiens

<400> 51

```
Met Ile Arg Thr Pro Leu Ser Ala Ser Ala His Arg Leu Leu Leu Pro
 1               5                  10                  15
Gly Ser Arg Gly Arg Pro Pro Arg Asn Met Gln Pro Thr Gly Arg Glu
            20                  25                  30
Gly Ser Arg Ala Leu Ser Arg Arg Tyr Leu Arg Arg Leu Leu Leu Leu
        35                  40                  45
Leu Leu Leu Leu Leu Leu Arg Gln Pro Val Thr Arg Ala Glu Thr Thr
    50                  55                  60
Pro Gly Ala Pro Arg Ala Leu Ser Thr Leu Gly Ser Pro Ser Leu Phe
65                  70                  75                  80
Thr Thr Pro Gly Val Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr
                85                  90                  95
Pro Gly Thr Pro Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu
            100                 105                 110
Met Arg Ser Phe Pro Leu Val Asp Gly Tyr Val Gly Leu Asn Ser Ser
        115                 120                 125
Gln Lys Leu Ala Cys Leu Ile Gly Val Glu Gly Gly His Ser Leu Asp
    130                 135                 140
Ser Ser Leu Ser Val Leu Arg Ser Phe Tyr Val Leu Gly Val Arg Tyr
145                 150                 155                 160
Leu Thr Leu Thr Phe Thr Cys Ser Thr Pro Trp Ala Glu Ser Ser Thr
                165                 170                 175
Lys Phe Arg His His Met Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe
            180                 185                 190
Gly Glu Lys Val Val Glu Glu Leu Asn Arg Leu Gly Met Met Ile Asp
        195                 200                 205
Leu Ser Tyr Ala Ser Asp Thr Leu Ile Arg Arg Val Leu Glu Val Ser
    210                 215                 220
Gln Ala Pro Val Ile Phe Ser His Ser Ala Ala Arg Ala Val Cys Asp
225                 230                 235                 240
Asn Leu Leu Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys Lys Asn
                245                 250                 255
Gly Gly Ile Val Met Val Thr Leu Ser Met Gly Val Leu Gln Cys Asn
            260                 265                 270
Leu Leu Ala Asn Val Ser Thr Val Ala Asp Asp Ser Asn Arg Cys Ser
        275                 280                 285
Val Pro Val Ile Gly Ser Glu Phe Ile Gly Ile Gly Gly Asn Tyr Asp
    290                 295                 300
Gly Thr Gly Arg Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr Pro
305                 310                 315                 320
Val Leu Ile Glu Glu Leu Leu Ser Arg Ser Trp Ser Glu Glu Glu Leu
                325                 330                 335
Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg Gln Val Glu
            340                 345                 350
Lys Val Arg Glu Glu Ser Arg Ala Gln Ser Pro Val Glu Ala Glu Phe
        355                 360                 365
Pro Tyr Gly Gln Leu Ser Thr Ser Cys His Ser His Leu Val Pro Gln
    370                 375                 380
Asn Gly His Gln Ala Thr His Leu Glu Val Thr Lys Gln Pro Thr Asn
385                 390                 395                 400
Arg Val Pro Trp Arg Ser Ser Asn Ala Ser Pro Tyr Leu Val Pro Gly
                405                 410                 415
Leu Val Ala Ala Ala Thr Ile Pro Thr Phe Thr Gln Trp Leu Cys
            420                 425                 430
```

<210> 52
<211> 480
<212> PRT
<213> homo sapiens

<400> 52

```
Met Gln Pro Ser Gly Leu Glu Gly Pro Gly Thr Phe Gly Arg Trp Pro
 1               5                  10                  15
Leu Leu Ser Leu Leu Leu Leu Leu Leu Leu Leu Gln Pro Val Thr Cys
            20                  25                  30
Ala Tyr Thr Thr Pro Gly Pro Pro Arg Ala Leu Thr Thr Leu Gly Ala
        35                  40                  45
Pro Arg Ala His Thr Met Pro Gly Thr Tyr Ala Pro Ser Thr Thr Leu
    50                  55                  60
Ser Ser Pro Ser Thr Gln Gly Leu Gln Glu Gln Ala Arg Ala Leu Met
65                  70                  75                  80
Arg Asp Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Leu Val Leu
                85                  90                  95
Arg Gln Val Tyr Gln Lys Gly Leu Gln Asp Val Asn Leu Arg Asn Phe
            100                 105                 110
Ser Tyr Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val Gly
        115                 120                 125
Ala Gln Phe Trp Ser Ala Tyr Val Pro Cys Gln Thr Gln Asp Arg Asp
    130                 135                 140
Ala Leu Arg Leu Thr Leu Glu Gln Ile Asp Leu Ile Arg Arg Met Cys
145                 150                 155                 160
Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala Lys Gly Leu Asn
                165                 170                 175
Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val Glu Gly Gly His Ser
            180                 185                 190
Leu Asp Ser Ser Leu Ser Val Leu Arg Ser Phe Tyr Val Leu Gly Val
        195                 200                 205
Arg Tyr Leu Thr Leu Thr Phe Thr Cys Ser Thr Pro Trp Ala Glu Ser
    210                 215                 220
Ser Thr Lys Phe Arg His His Met Tyr Thr Asn Val Ser Gly Leu Thr
225                 230                 235                 240
Ser Phe Gly Glu Lys Val Val Glu Glu Leu Asn Arg Leu Gly Met Met
                245                 250                 255
Ile Asp Leu Ser Tyr Ala Ser Asp Thr Leu Ile Arg Arg Val Leu Glu
            260                 265                 270
Val Ser Gln Ala Pro Val Ile Phe Ser His Ser Ala Ala Arg Ala Val
        275                 280                 285
Cys Asp Asn Leu Leu Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys
    290                 295                 300
Lys Asn Gly Gly Ile Val Met Val Thr Leu Ser Met Gly Val Leu Gln
305                 310                 315                 320
Cys Asn Leu Leu Ala Asn Val Ser Thr Val Ala Asp His Phe Asp His
                325                 330                 335
Ile Arg Ala Val Ile Gly Ser Glu Phe Ile Gly Ile Gly Gly Asn Tyr
            340                 345                 350
Asp Gly Thr Gly Arg Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr
        355                 360                 365
Pro Val Leu Ile Glu Glu Leu Leu Ser Arg Ser Trp Ser Glu Glu Glu
    370                 375                 380
Leu Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg Gln Val
385                 390                 395                 400
Glu Lys Val Arg Glu Glu Ser Arg Ala Gln Ser Pro Val Glu Ala Glu
                405                 410                 415
Phe Pro Tyr Gly Gln Leu Ser Thr Ser Cys His Ser His Leu Val Pro
```

```
            420                 425                 430
Gln Asn Gly His Gln Ala Thr His Leu Glu Val Thr Lys Gln Pro Thr
        435                 440                 445
Asn Arg Val Pro Trp Arg Ser Ser Asn Ala Ser Pro Tyr Leu Val Pro
    450                 455                 460
Gly Leu Val Ala Ala Ala Thr Ile Pro Thr Phe Thr Gln Trp Leu Cys
465                 470                 475                 480
```

<210> 53
<211> 371
<212> PRT
<213> homo sapiens

<400> 53

```
Met Asp Ala Ala Thr Ala Pro Lys Gln Ala Trp Pro Pro Trp Pro Pro
 1               5                  10                  15
Leu Leu Phe Leu Leu Leu Leu Pro Gly Gly Ser Gly Gly Ser Cys Pro
            20                  25                  30
Ala Val Cys Asp Cys Thr Ser Gln Pro Gln Ala Val Leu Cys Gly His
        35                  40                  45
Arg Gln Leu Glu Ala Val Pro Gly Gly Leu Pro Leu Asp Thr Glu Leu
    50                  55                  60
Leu Asp Leu Ser Gly Asn Arg Leu Pro Lys Ala Gln Pro Leu Val Arg
65                  70                  75                  80
Leu Gln Glu Leu Arg Leu Ser Gly Ala Cys Leu Thr Ser Ile Ala Ala
                85                  90                  95
His Ala Phe His Gly Leu Thr Ala Phe His Leu Leu Asp Val Ala Asp
            100                 105                 110
Asn Ala Leu Gln Thr Leu Glu Glu Thr Ala Phe Pro Ser Pro Asp Lys
        115                 120                 125
Leu Val Thr Leu Arg Leu Ser Gly Asn Pro Leu Thr Cys Asp Cys Arg
    130                 135                 140
Leu Leu Trp Leu Leu Arg Leu Arg His Leu Asp Phe Gly Met Ser Pro
145                 150                 155                 160
Pro Ala Cys Ala Gly Pro His His Val Gln Gly Lys Ser Leu Lys Glu
                165                 170                 175
Phe Ser Asp Ile Leu Pro Pro Gly His Phe Thr Cys Lys Pro Ala Leu
            180                 185                 190
Ile Arg Lys Ser Gly Pro Arg Trp Val Ile Ala Glu Glu Gly Gly His
        195                 200                 205
Ala Val Phe Ser Cys Ser Gly Asp Gly Asp Pro Ala Pro Thr Val Ser
    210                 215                 220
Trp Met Arg Pro His Gly Ala Trp Leu Gly Arg Ala Gly Arg Val Arg
225                 230                 235                 240
Val Leu Glu Asp Gly Thr Leu Glu Ile Arg Ser Val Gln Leu Arg Asp
                245                 250                 255
Arg Gly Ala Tyr Val Cys Val Val Ser Asn Val Ala Gly Asn Asp Ser
            260                 265                 270
Leu Arg Thr Trp Leu Glu Val Ile Gln Val Glu Pro Pro Asn Gly Thr
        275                 280                 285
Leu Ser Asp Pro Asn Ile Thr Val Pro Gly Ile Pro Gly Pro Phe Phe
    290                 295                 300
Leu Asp Ser Arg Gly Val Ala Met Val Leu Ala Val Gly Phe Leu Pro
305                 310                 315                 320
Phe Leu Thr Ser Val Thr Leu Cys Phe Gly Leu Ile Ala Leu Trp Ser
                325                 330                 335
Lys Gly Lys Gly Arg Val Lys His His Met Thr Phe Asp Phe Val Ala
            340                 345                 350
```

```
Pro Arg Pro Ser Gly Asp Lys Asn Ser Gly Gly Asn Arg Val Thr Ala
        355                 360                 365
Lys Leu Phe
    370
```

<210> 54
<211> 592
<212> PRT
<213> homo sapiens

<400> 54

```
Met Asp Ala Ala Thr Ala Pro Lys Gln Ala Trp Pro Pro Trp Pro Pro
 1               5                  10                  15
Leu Leu Phe Leu Leu Leu Leu Pro Gly Gly Ser Gly Gly Ser Cys Pro
            20                  25                  30
Ala Val Cys Asp Cys Thr Ser Gln Pro Gln Ala Val Leu Cys Gly His
        35                  40                  45
Arg Gln Leu Glu Ala Val Pro Gly Gly Leu Pro Leu Asp Thr Glu Leu
    50                  55                  60
Leu Asp Leu Ser Gly Asn Arg Leu Trp Gly Leu Gln Gln Gly Met Leu
65                  70                  75                  80
Ser Arg Leu Ser Leu Leu Gln Glu Leu Asp Leu Ser Tyr Asn Gln Leu
                85                  90                  95
Ser Thr Leu Glu Pro Gly Ala Phe His Gly Leu Gln Ser Leu Leu Thr
            100                 105                 110
Leu Arg Leu Gln Gly Asn Arg Leu Arg Ile Met Gly Pro Gly Val Phe
        115                 120                 125
Ser Gly Leu Ser Ala Leu Thr Leu Leu Asp Leu Arg Leu Asn Gln Ile
    130                 135                 140
Val Leu Phe Leu Asp Gly Ala Phe Gly Glu Leu Gly Ser Leu Gln Lys
145                 150                 155                 160
Leu Glu Val Gly Asp Asn His Leu Val Phe Val Ala Pro Gly Ala Phe
                165                 170                 175
Ala Gly Leu Ala Lys Leu Ser Thr Leu Thr Leu Glu Arg Cys Asn Leu
            180                 185                 190
Ser Thr Val Pro Gly Leu Ala Leu Ala Arg Leu Pro Ala Leu Val Ala
        195                 200                 205
Leu Arg Leu Arg Glu Leu Asp Ile Gly Arg Leu Pro Ala Gly Ala Leu
    210                 215                 220
Arg Gly Leu Gly Gln Leu Lys Glu Leu Glu Ile His Leu Trp Pro Ser
225                 230                 235                 240
Leu Glu Ala Leu Asp Pro Gly Ser Leu Val Gly Leu Asn Leu Ser Ser
                245                 250                 255
Leu Ala Ile Thr Arg Cys Asn Leu Ser Ser Val Pro Phe Gln Ala Leu
            260                 265                 270
Tyr His Leu Ser Phe Leu Arg Val Leu Asp Leu Ser Gln Asn Pro Ile
        275                 280                 285
Ser Ala Ile Pro Ala Arg Arg Leu Ser Pro Leu Val Arg Leu Gln Glu
    290                 295                 300
Leu Arg Leu Ser Gly Ala Cys Leu Thr Ser Ile Ala Ala His Ala Phe
305                 310                 315                 320
His Gly Leu Thr Ala Phe His Leu Leu Asp Val Ala Asp Asn Ala Leu
                325                 330                 335
Gln Thr Leu Glu Glu Thr Ala Phe Pro Ser Pro Asp Lys Leu Val Thr
            340                 345                 350
Leu Arg Leu Ser Gly Asn Pro Leu Thr Cys Asp Cys Arg Leu Leu Trp
        355                 360                 365
Leu Leu Arg Leu Arg His Leu Asp Phe Gly Met Ser Pro Pro Ala Cys
```

```
    370                 375                 380
Ala Gly Pro His His Val Gln Gly Lys Ser Leu Lys Glu Phe Ser Asp
385                 390                 395                 400
Ile Leu Pro Pro Gly His Phe Thr Cys Lys Pro Ala Leu Ile Arg Lys
                405                 410                 415
Ser Gly Pro Arg Trp Val Ile Ala Glu Glu Gly Gly His Ala Val Phe
            420                 425                 430
Ser Cys Ser Gly Asp Gly Asp Pro Ala Pro Thr Val Ser Trp Met Arg
        435                 440                 445
Pro His Gly Ala Trp Leu Gly Arg Ala Gly Arg Val Arg Val Leu Glu
    450                 455                 460
Asp Gly Thr Leu Glu Ile Arg Ser Val Gln Leu Arg Asp Arg Gly Ala
465                 470                 475                 480
Tyr Val Cys Val Val Ser Asn Val Ala Gly Asn Asp Ser Leu Arg Thr
                485                 490                 495
Trp Leu Glu Val Ile Gln Val Glu Pro Pro Asn Gly Thr Leu Ser Asp
            500                 505                 510
Pro Asn Ile Thr Val Pro Gly Ile Pro Gly Pro Phe Phe Leu Asp Ser
        515                 520                 525
Arg Gly Val Ala Met Val Leu Ala Val Gly Phe Leu Pro Phe Leu Thr
    530                 535                 540
Ser Val Thr Leu Cys Phe Gly Leu Ile Ala Leu Trp Ser Lys Gly Lys
545                 550                 555                 560
Gly Arg Val Lys His His Met Thr Phe Asp Phe Val Ala Pro Arg Pro
                565                 570                 575
Ser Gly Asp Lys Asn Ser Gly Gly Asn Arg Val Thr Ala Lys Leu Phe
            580                 585                 590
```

<210> 55
<211> 142
<212> PRT
<213> homo sapiens

<400> 55

```
Met Ala Arg Tyr Met Leu Leu Leu Leu Leu Ala Val Trp Val Leu Thr
 1               5                  10                  15
Gly Glu Leu Trp Pro Gly Ala Glu Ala Arg Ala Ala Pro Tyr Gly Val
            20                  25                  30
Arg Leu Cys Gly Arg Glu Phe Ile Arg Ala Val Ile Phe Thr Cys Gly
        35                  40                  45
Gly Ser Arg Trp Arg Arg Ser Asp Ile Leu Ala His Glu Ala Met Gly
    50                  55                  60
Asp Thr Phe Pro Asp Ala Asp Ala Asp Glu Asp Ser Leu Ala Gly Glu
65                  70                  75                  80
Leu Asp Glu Ala Met Gly Ser Ser Glu Trp Leu Ala Leu Thr Lys Ser
                85                  90                  95
Pro Gln Ala Phe Tyr Arg Gly Arg Pro Ser Trp Gln Gly Thr Pro Gly
            100                 105                 110
Val Leu Arg Gly Ser Arg Asp Val Leu Ala Gly Leu Ser Ser Ser Cys
        115                 120                 125
Cys Lys Trp Gly Cys Ser Lys Ser Glu Ile Ser Ser Leu Cys
    130                 135                 140
```

<210> 56
<211> 230
<212> PRT
<213> homo sapiens

<400> 56
Met Ser Glu Glu Val Thr Tyr Ala Thr Leu Thr Phe Gln Asp Ser Ala
1 5 10 15
Gly Ala Arg Asn Asn Arg Asp Gly Asn Asn Leu Arg Lys Arg Gly His
20 25 30
Pro Ala Pro Ser Pro Ile Trp Arg His Ala Ala Leu Gly Leu Val Thr
35 40 45
Leu Cys Leu Met Leu Leu Ile Gly Leu Val Thr Leu Gly Met Met Phe
50 55 60
Leu Gln Ile Ser Asn Asp Ile Asn Ser Asp Ser Glu Lys Leu Ser Gln
65 70 75 80
Leu Gln Lys Thr Ile Gln Gln Gln Gln Asp Asn Leu Ser Gln Gln Leu
85 90 95
Gly Asn Ser Asn Asn Leu Ser Met Glu Glu Glu Phe Leu Lys Ser Gln
100 105 110
Ile Ser Ser Leu Leu Lys Arg Gln Glu Gln Met Ala Ile Lys Leu Cys
115 120 125
Gln Glu Leu Ile Ile His Thr Ser Asp His Arg Cys Asn Pro Cys Pro
130 135 140
Lys Met Trp Gln Trp Tyr Gln Asn Ser Cys Tyr Tyr Phe Thr Thr Asn
145 150 155 160
Glu Glu Lys Thr Trp Ala Asn Ser Arg Lys Asp Cys Ile Asp Lys Asn
165 170 175
Ser Thr Leu Val Lys Ile Asp Ser Leu Glu Glu Lys Asp Phe Leu Met
180 185 190
Ser Gln Pro Leu Leu Met Phe Ser Phe Phe Trp Leu Gly Leu Ser Trp
195 200 205
Asp Ser Ser Gly Arg Ser Trp Phe Trp Glu Asp Gly Ser Val Pro Ser
210 215 220
Pro Ser Leu Tyr Val Ser
225 230

<210> 57
<211> 194
<212> PRT
<213> homo sapiens

<400> 57
Met Trp Leu Ser Pro Ala Leu Leu Leu Leu Ile Leu Pro Gly Tyr Ser
1 5 10 15
Ile Ala Ala Lys Ile Thr Gly Pro Thr Thr Val Asn Gly Ser Glu Gln
20 25 30
Gly Ser Leu Thr Val Gln Cys Ala Tyr Gly Ser Gly Trp Glu Thr Tyr
35 40 45
Leu Lys Trp Arg Cys Gln Gly Ala Asp Trp Asn Tyr Cys Asn Ile Leu
50 55 60
Val Lys Thr Asn Gly Ser Glu Gln Glu Val Lys Lys Asn Arg Val Ser
65 70 75 80
Ile Arg Asp Asn Gln Lys Asn His Met Phe Thr Val Thr Met Glu Asn
85 90 95
Leu Lys Arg Asp Asp Ala Asp Ser Tyr Trp Cys Gly Thr Glu Arg Pro
100 105 110
Gly Ile Asp Leu Gly Val Lys Val Gln Val Thr Ile Asn Pro Gly Thr
115 120 125
Gln Thr Ala Val Ser Glu Trp Thr Thr Thr Thr Ala Ser Leu Ala Phe
130 135 140
Thr Ala Ala Ala Thr Gln Lys Thr Ser Ser Pro Leu Thr Arg Ser Pro

```
145                 150                 155                 160
Leu Lys Ser Thr His Phe Leu Phe Leu Phe Leu Leu Glu Leu Pro Leu
                165                 170                 175
Leu Leu Ser Met Leu Gly Thr Val Leu Trp Val Asn Arg Pro Gln Arg
            180                 185                 190
Arg Ser
```

<210> 58
<211> 333
<212> PRT
<213> homo sapiens

<400> 58

```
Met Arg Ile Trp Trp Leu Leu Leu Ala Ile Glu Ile Cys Thr Gly Asn
 1               5                  10                  15
Ile Asn Ser Gln Asp Thr Cys Arg Gln Gly His Pro Gly Ile Pro Gly
            20                  25                  30
Asn Pro Gly His Asn Gly Leu Pro Gly Arg Asp Gly Arg Asp Gly Ala
        35                  40                  45
Lys Gly Asp Lys Gly Asp Ala Gly Glu Pro Gly Arg Pro Gly Ser Pro
    50                  55                  60
Gly Lys Asp Gly Thr Ser Gly Glu Lys Gly Glu Arg Gly Ala Asp Gly
65                  70                  75                  80
Lys Val Glu Ala Lys Gly Ile Lys Gly Asp Gln Gly Ser Arg Gly Ser
                85                  90                  95
Pro Gly Lys His Gly Pro Lys Gly Leu Ala Gly Pro Met Gly Glu Lys
            100                 105                 110
Gly Leu Arg Gly Glu Thr Gly Pro Gln Gly Gln Lys Gly Asn Lys Gly
        115                 120                 125
Asp Val Gly Pro Thr Gly Pro Glu Gly Pro Arg Gly Asn Ile Gly Pro
    130                 135                 140
Leu Gly Pro Thr Gly Leu Pro Gly Pro Met Gly Pro Ile Gly Lys Pro
145                 150                 155                 160
Gly Pro Lys Gly Glu Ala Gly Pro Thr Gly Pro Gln Gly Glu Pro Gly
                165                 170                 175
Val Arg Gly Ile Arg Gly Trp Lys Gly Asp Arg Gly Glu Lys Gly Lys
            180                 185                 190
Ile Gly Glu Thr Leu Val Leu Pro Lys Ser Ala Phe Thr Val Gly Leu
        195                 200                 205
Thr Val Leu Ser Lys Phe Pro Ser Ser Asp Met Pro Ile Lys Phe Asp
    210                 215                 220
Lys Ile Leu Tyr Asn Glu Phe Asn His Tyr Asp Thr Ala Ala Gly Lys
225                 230                 235                 240
Phe Thr Cys His Ile Ala Gly Val Tyr Tyr Phe Thr Tyr His Ile Thr
                245                 250                 255
Val Phe Ser Arg Asn Val Gln Val Ser Leu Val Lys Asn Gly Val Lys
            260                 265                 270
Ile Leu His Thr Lys Asp Ala Tyr Met Ser Ser Glu Asp Gln Ala Ser
        275                 280                 285
Gly Gly Ile Val Leu Gln Leu Lys Leu Gly Asp Glu Val Trp Leu Gln
    290                 295                 300
Val Thr Gly Gly Glu Arg Phe Asn Gly Leu Phe Ala Asp Glu Asp Asp
305                 310                 315                 320
Asp Thr Thr Phe Thr Gly Phe Leu Leu Phe Ser Ser Pro
                325                 330
```

<210> 59
<211> 225
<212> PRT
<213> homo sapiens

<400> 59
Met Arg Ile Trp Trp Leu Leu Leu Ala Ile Glu Ile Cys Thr Gly Asn
1 5 10 15
Ile Asn Ser Gln Asp Thr Cys Arg Gln Gly His Pro Gly Ile Pro Gly
20 25 30
Asn Pro Gly His Asn Gly Leu Pro Gly Arg Asp Gly Arg Asp Gly Ala
35 40 45
Lys Gly Asp Lys Gly Asp Ala Gly Glu Ala Gly Pro Thr Gly Pro Gln
50 55 60
Gly Glu Pro Gly Val Arg Gly Ile Arg Gly Trp Lys Gly Asp Arg Gly
65 70 75 80
Glu Lys Gly Lys Ile Gly Glu Thr Leu Val Leu Pro Lys Ser Ala Phe
85 90 95
Thr Val Gly Leu Thr Val Leu Ser Lys Phe Pro Ser Ser Asp Met Pro
100 105 110
Ile Lys Phe Asp Lys Ile Leu Tyr Asn Glu Phe Asn His Tyr Asp Thr
115 120 125
Ala Ala Gly Lys Phe Thr Cys His Ile Ala Gly Val Tyr Tyr Phe Thr
130 135 140
Tyr His Ile Thr Val Phe Ser Arg Asn Val Gln Val Ser Leu Val Lys
145 150 155 160
Asn Gly Val Lys Ile Leu His Thr Lys Asp Ala Tyr Met Ser Ser Glu
165 170 175
Asp Gln Ala Ser Gly Gly Ile Val Leu Gln Leu Lys Leu Gly Asp Glu
180 185 190
Val Trp Leu Gln Val Thr Gly Gly Glu Arg Phe Asn Gly Leu Phe Ala
195 200 205
Asp Glu Asp Asp Asp Thr Thr Phe Thr Gly Phe Leu Leu Phe Ser Ser
210 215 220
Pro
225

<210> 60
<211> 205
<212> PRT
<213> homo sapiens

<400> 60
Met Met Arg Thr Leu Ile Thr Thr His Pro Leu Pro Leu Leu Leu Leu
1 5 10 15
Pro Gln Gln Leu Leu Gln Leu Val Gln Phe Gln Glu Val Asp Thr Asp
20 25 30
Phe Asp Phe Pro Glu Glu Asp Lys Lys Glu Glu Phe Glu Glu Cys Leu
35 40 45
Glu Lys Phe Phe Ser Thr Gly Pro Ala Arg Pro Pro Thr Lys Glu Lys
50 55 60
Val Lys Arg Arg Val Leu Ile Glu Pro Gly Met Pro Leu Asn His Ile
65 70 75 80
Glu Tyr Cys Asn His Glu Ile Met Gly Lys Asn Val Tyr Tyr Lys His
85 90 95
Arg Trp Val Ala Glu His Tyr Phe Leu Leu Met Gln Tyr Asp Glu Leu
100 105 110
Gln Lys Ile Cys Tyr Asn Arg Phe Val Pro Cys Lys Asn Gly Ile Arg

```
        115                 120                 125
Lys Cys Asn Arg Ser Lys Gly Leu Val Glu Gly Val Tyr Cys Asn Leu
    130                 135                 140
Thr Glu Ala Phe Glu Ile Pro Ala Cys Lys Tyr Glu Ser Leu Tyr Arg
145                 150                 155                 160
Lys Gly Tyr Val Leu Ile Thr Cys Ser Trp Gln Asn Glu Met Gln Lys
                165                 170                 175
Arg Ile Pro His Thr Ile Asn Asp Leu Val Glu Pro Pro Glu His Arg
            180                 185                 190
Ser Phe Leu Ser Glu Asp Gly Val Phe Val Ile Ser Pro
        195                 200                 205
```

<210> 61
<211> 95
<212> PRT
<213> homo sapiens

<400> 61

```
Met Glu Val Val Leu Ile Phe Leu Cys Ser Leu Leu Ala His Ile Val
 1               5                  10                  15
Leu Ala Asp Ala Val Glu Arg Glu Lys Gln Ile Asp Pro Phe His Tyr
            20                  25                  30
Asp Tyr Gln Thr Leu Arg Ile Arg Gly Leu Val Cys Ala Val Val Leu
        35                  40                  45
Phe Ser Ile Gly Ile Leu Leu Ile Leu Gly Cys Arg Cys Lys Cys Ser
    50                  55                  60
Phe Asn Gln Lys Pro Arg Thr Pro Gly Glu Glu Glu Ala Gln Val Glu
65                  70                  75                  80
Asn Leu Ile Thr Ala Asn Ala Thr Lys Leu Gln Lys Ala Glu Ser
                85                  90                  95
```

<210> 62
<211> 595
<212> PRT
<213> homo sapiens

<400> 62

```
Met Glu Val Gly Met Gly Cys Trp Ala Arg Glu Val Leu Val Pro Glu
 1               5                  10                  15
Gly Pro Leu Tyr Arg Val Ala Gly Thr Ala Val Ser Ile Ser Cys Asn
            20                  25                  30
Val Thr Gly Tyr Glu Gly Pro Ala Gln Gln Asn Phe Glu Trp Phe Leu
        35                  40                  45
Tyr Arg Pro Glu Ala Pro Asp Thr Ala Leu Gly Ile Val Ser Thr Lys
    50                  55                  60
Asp Thr Gln Phe Ser Tyr Ala Val Phe Lys Ser Arg Val Val Ala Gly
65                  70                  75                  80
Glu Val Gln Val Gln Arg Leu Gln Gly Asp Ala Val Val Leu Lys Ile
                85                  90                  95
Ala Arg Leu Gln Ala Gln Asp Ala Gly Ile Tyr Glu Cys His Thr Pro
            100                 105                 110
Ser Thr Asp Thr Arg Tyr Leu Gly Ser Tyr Ser Gly Lys Val Glu Leu
        115                 120                 125
Arg Val Leu Pro Asp Val Leu Gln Val Ser Ala Ala Pro Pro Gly Pro
    130                 135                 140
Arg Gly Arg Gln Ala Pro Thr Ser Pro Pro Arg Met Thr Val His Glu
145                 150                 155                 160
```

```
Gly Gln Glu Leu Ala Leu Gly Cys Leu Ala Arg Thr Ser Thr Gln Lys
                165                 170                 175
His Thr His Leu Ala Val Ser Phe Gly Arg Ser Val Pro Glu Ala Pro
            180                 185                 190
Val Gly Arg Ser Thr Leu Gln Glu Val Val Gly Ile Arg Ser Asp Leu
        195                 200                 205
Ala Val Glu Ala Gly Ala Pro Tyr Ala Glu Arg Leu Ala Ala Gly Glu
    210                 215                 220
Leu Arg Leu Gly Lys Glu Gly Thr Asp Arg Tyr Arg Met Val Val Gly
225                 230                 235                 240
Gly Ala Gln Ala Gly Asp Ala Gly Thr Tyr His Cys Thr Ala Ala Glu
                245                 250                 255
Trp Ile Gln Asp Pro Asp Gly Ser Trp Ala Gln Ile Ala Glu Lys Arg
            260                 265                 270
Ala Val Leu Ala His Val Asp Val Gln Thr Leu Ser Ser Gln Leu Ala
        275                 280                 285
Val Thr Val Gly Pro Gly Glu Arg Arg Ile Gly Pro Gly Glu Pro Leu
    290                 295                 300
Glu Leu Leu Cys Asn Val Ser Gly Ala Leu Pro Pro Ala Gly Arg His
305                 310                 315                 320
Ala Ala Tyr Ser Val Gly Trp Glu Met Ala Pro Ala Gly His Leu Gly
                325                 330                 335
Pro Gly Arg Leu Val Ala Gln Leu Asp Thr Glu Gly Val Gly Ser Leu
            340                 345                 350
Gly Pro Gly Tyr Glu Gly Arg His Ile Ala Met Glu Lys Val Ala Ser
        355                 360                 365
Arg Thr Tyr Arg Leu Arg Leu Glu Ala Ala Arg Pro Gly Asp Ala Gly
    370                 375                 380
Thr Tyr Arg Cys Leu Ala Lys Ala Tyr Val Arg Gly Ser Gly Thr Arg
385                 390                 395                 400
Leu Arg Glu Ala Ala Ser Ala Arg Ser Arg Pro Leu Pro Val His Val
                405                 410                 415
Arg Glu Glu Gly Val Val Leu Glu Ala Val Ala Trp Leu Ala Gly Gly
            420                 425                 430
Thr Val Tyr Arg Gly Glu Thr Ala Ser Leu Leu Cys Asn Ile Ser Val
        435                 440                 445
Arg Gly Gly Pro Pro Gly Leu Arg Leu Ala Ala Ser Trp Trp Val Glu
    450                 455                 460
Arg Pro Glu Asp Gly Glu Leu Ser Ser Val Pro Ala Gln Leu Val Gly
465                 470                 475                 480
Gly Val Gly Gln Asp Gly Val Ala Glu Leu Gly Val Arg Pro Gly Gly
                485                 490                 495
Gly Pro Val Ser Val Glu Leu Val Gly Pro Arg Ser His Arg Leu Arg
            500                 505                 510
Leu His Ser Leu Gly Pro Glu Asp Glu Gly Val Tyr His Cys Ala Pro
        515                 520                 525
Ser Ala Trp Val Gln His Ala Asp Tyr Ser Trp Tyr Gln Ala Gly Ser
    530                 535                 540
Ala Arg Ser Gly Pro Val Thr Val Tyr Pro Tyr Met His Ala Leu Asp
545                 550                 555                 560
Thr Leu Phe Val Pro Leu Leu Val Gly Thr Gly Val Ala Leu Val Thr
                565                 570                 575
Gly Ala Thr Val Leu Gly Thr Ile Thr Cys Cys Phe Met Lys Arg Leu
            580                 585                 590
Arg Lys Arg
        595
```

<210> 63

<211> 613
<212> PRT
<213> homo sapiens

<400> 63

```
Met Gly Ala Leu Arg Pro Thr Leu Leu Pro Pro Ser Leu Pro Leu Leu
 1               5                  10                  15
Leu Leu Leu Met Leu Gly Met Gly Cys Trp Ala Arg Glu Val Leu Val
            20                  25                  30
Pro Glu Gly Pro Leu Tyr Arg Val Ala Gly Thr Ala Val Ser Ile Ser
        35                  40                  45
Cys Asn Val Thr Gly Tyr Glu Gly Pro Ala Gln Gln Asn Phe Glu Trp
    50                  55                  60
Phe Leu Tyr Arg Pro Glu Ala Pro Asp Thr Ala Leu Gly Ile Val Ser
65                  70                  75                  80
Thr Lys Asp Thr Gln Phe Ser Tyr Ala Val Phe Lys Ser Arg Val Val
                85                  90                  95
Ala Gly Glu Val Gln Val Gln Arg Leu Gln Gly Asp Ala Val Val Leu
            100                 105                 110
Lys Ile Ala Arg Leu Gln Ala Gln Asp Ala Gly Ile Tyr Glu Cys His
        115                 120                 125
Thr Pro Ser Thr Asp Thr Arg Tyr Leu Gly Ser Tyr Ser Gly Lys Val
    130                 135                 140
Glu Leu Arg Val Leu Pro Asp Val Leu Gln Val Ser Ala Ala Pro Pro
145                 150                 155                 160
Gly Pro Arg Gly Arg Gln Ala Pro Thr Ser Pro Pro Arg Met Thr Val
                165                 170                 175
His Glu Gly Gln Glu Leu Ala Leu Gly Cys Leu Ala Arg Thr Ser Thr
            180                 185                 190
Gln Lys His Thr His Leu Ala Val Ser Phe Gly Arg Ser Val Pro Glu
        195                 200                 205
Ala Pro Val Gly Arg Ser Thr Leu Gln Glu Val Val Gly Ile Arg Ser
    210                 215                 220
Asp Leu Ala Val Glu Ala Gly Ala Pro Tyr Ala Glu Arg Leu Ala Ala
225                 230                 235                 240
Gly Glu Leu Arg Leu Gly Lys Glu Gly Thr Asp Arg Tyr Arg Met Val
                245                 250                 255
Val Gly Gly Ala Gln Ala Gly Asp Ala Gly Thr Tyr His Cys Thr Ala
            260                 265                 270
Ala Glu Trp Ile Gln Asp Pro Asp Gly Ser Trp Ala Gln Ile Ala Glu
        275                 280                 285
Lys Arg Ala Val Leu Ala His Val Asp Val Gln Thr Leu Ser Ser Gln
    290                 295                 300
Leu Ala Val Thr Val Gly Pro Gly Glu Arg Arg Ile Gly Pro Gly Glu
305                 310                 315                 320
Pro Leu Glu Leu Leu Cys Asn Val Ser Gly Ala Leu Pro Pro Ala Gly
                325                 330                 335
Arg His Ala Ala Tyr Ser Val Gly Trp Glu Met Ala Pro Ala Gly Ala
            340                 345                 350
Pro Gly Pro Gly Arg Leu Val Ala Gln Leu Asp Thr Glu Gly Val Gly
        355                 360                 365
Ser Leu Gly Pro Gly Tyr Glu Gly Arg His Ile Ala Met Glu Lys Val
    370                 375                 380
Ala Ser Arg Thr Tyr Arg Leu Arg Leu Glu Ala Ala Arg Pro Gly Asp
385                 390                 395                 400
Ala Gly Thr Tyr Arg Cys Leu Ala Lys Ala Tyr Val Arg Gly Ser Gly
                405                 410                 415
Thr Arg Leu Arg Glu Ala Ala Ser Ala Arg Ser Arg Pro Leu Pro Val
            420                 425                 430
```

```
His Val Arg Glu Glu Gly Val Val Leu Glu Ala Val Ala Trp Leu Ala
        435                 440                 445
Gly Gly Thr Val Tyr Arg Gly Glu Thr Ala Ser Leu Leu Cys Asn Ile
    450                 455                 460
Ser Val Arg Gly Gly Pro Pro Gly Leu Arg Leu Ala Ala Ser Trp Trp
465                 470                 475                 480
Val Glu Arg Pro Glu Asp Gly Glu Leu Ser Ser Val Pro Ala Gln Leu
                485                 490                 495
Val Gly Gly Val Gly Gln Asp Gly Val Ala Glu Leu Gly Val Arg Pro
            500                 505                 510
Gly Gly Gly Pro Val Ser Val Glu Leu Val Gly Pro Arg Ser His Arg
        515                 520                 525
Leu Arg Leu His Ser Leu Gly Pro Glu Asp Glu Gly Val Tyr His Cys
    530                 535                 540
Ala Pro Ser Ala Trp Val Gln His Ala Asp Tyr Ser Trp Tyr Gln Ala
545                 550                 555                 560
Gly Ser Ala Arg Ser Gly Pro Val Thr Val Tyr Pro Tyr Met His Ala
                565                 570                 575
Leu Asp Thr Leu Phe Val Pro Leu Leu Val Gly Thr Gly Val Ala Leu
            580                 585                 590
Val Thr Gly Ala Thr Val Leu Gly Thr Ile Thr Cys Cys Phe Met Lys
        595                 600                 605
Arg Leu Arg Lys Arg
    610
```

<210> 64
<211> 596
<212> PRT
<213> homo sapiens

<400> 64

```
Met Ala Ala Asn Ser Thr Ser Asp Leu His Thr Pro Gly Thr Gln Leu
 1               5                  10                  15
Ser Val Ala Asp Ile Ile Val Ile Thr Val Tyr Phe Ala Leu Asn Val
            20                  25                  30
Ala Val Gly Ile Trp Ser Ser Cys Arg Ala Ser Arg Asn Thr Val Asn
        35                  40                  45
Gly Tyr Phe Leu Ala Gly Arg Asp Met Thr Trp Trp Pro Ile Gly Ala
    50                  55                  60
Ser Leu Phe Ala Ser Ser Glu Gly Ser Gly Leu Phe Ile Gly Leu Ala
65                  70                  75                  80
Gly Ser Gly Ala Ala Gly Gly Leu Ala Val Ala Gly Phe Glu Trp Asn
                85                  90                  95
Ala Thr Tyr Val Leu Leu Ala Leu Ala Trp Val Phe Val Pro Ile Tyr
            100                 105                 110
Ile Ser Ser Glu Ile Val Thr Leu Pro Glu Tyr Ile Gln Lys Arg Tyr
        115                 120                 125
Gly Gly Gln Arg Ile Arg Met Tyr Leu Ser Val Leu Ser Leu Leu Leu
    130                 135                 140
Ser Val Phe Thr Lys Ile Ser Leu Asp Leu Tyr Ala Gly Ala Leu Phe
145                 150                 155                 160
Val His Ile Cys Leu Gly Trp Asn Phe Tyr Leu Ser Thr Ile Leu Thr
                165                 170                 175
Leu Gly Ile Thr Ala Leu Tyr Thr Ile Ala Gly Gly Leu Ala Ala Val
            180                 185                 190
Ile Tyr Thr Asp Ala Leu Gln Thr Leu Ile Met Val Val Gly Ala Val
        195                 200                 205
Ile Leu Thr Ile Lys Ala Phe Asp Gln Ile Gly Gly Tyr Gly Gln Leu
```

```
    210                 215                 220
Glu Ala Ala Tyr Ala Gln Ala Ile Pro Ser Arg Thr Ile Ala Asn Thr
225                 230                 235                 240
Thr Cys His Leu Pro Arg Thr Asp Ala Met His Met Phe Arg Asp Pro
                245                 250                 255
His Thr Gly Asp Leu Pro Trp Thr Gly Met Thr Phe Gly Leu Thr Ile
            260                 265                 270
Met Ala Thr Trp Tyr Trp Cys Thr Asp Gln Val Ile Val Gln Arg Ser
        275                 280                 285
Leu Ser Ala Arg Asp Leu Asn His Ala Lys Ala Gly Ser Ile Leu Ala
    290                 295                 300
Ser Tyr Leu Lys Met Leu Pro Met Gly Leu Ile Ile Met Pro Gly Met
305                 310                 315                 320
Ile Ser Arg Ala Leu Phe Pro Asp Asp Val Gly Cys Val Val Pro Ser
                325                 330                 335
Glu Cys Leu Arg Ala Cys Gly Ala Glu Val Gly Cys Ser Asn Ile Ala
            340                 345                 350
Tyr Pro Lys Leu Val Met Glu Leu Met Pro Ile Gly Leu Arg Gly Leu
        355                 360                 365
Met Ile Ala Val Met Leu Ala Ala Leu Met Ser Ser Leu Thr Ser Ile
    370                 375                 380
Phe Asn Ser Ser Ser Thr Leu Phe Thr Met Asp Ile Trp Arg Arg Leu
385                 390                 395                 400
Arg Pro Arg Ser Gly Glu Arg Glu Leu Leu Leu Val Gly Arg Leu Val
                405                 410                 415
Ile Val Ala Leu Ile Gly Val Ser Val Ala Trp Ile Pro Val Leu Gln
            420                 425                 430
Asp Ser Asn Ser Gly Gln Leu Phe Ile Tyr Met Gln Ser Val Thr Ser
        435                 440                 445
Ser Leu Ala Pro Pro Val Thr Ala Val Phe Val Leu Gly Val Phe Trp
    450                 455                 460
Arg Arg Ala Asn Glu Gln Gly Ala Phe Trp Gly Leu Ile Ala Gly Leu
465                 470                 475                 480
Val Val Gly Ala Thr Arg Leu Val Leu Glu Phe Leu Asn Pro Ala Pro
                485                 490                 495
Pro Cys Gly Glu Pro Asp Thr Arg Pro Ala Val Leu Gly Ser Ile His
            500                 505                 510
Tyr Leu His Phe Ala Val Ala Leu Phe Ala Leu Ser Gly Ala Val Val
        515                 520                 525
Val Ala Gly Ser Leu Leu Thr Pro Pro Pro Gln Ser Val Gln Ile Glu
    530                 535                 540
Asn Leu Thr Trp Trp Thr Leu Ala Gln Asp Val Pro Leu Gly Thr Lys
545                 550                 555                 560
Ala Gly Asp Gly Gln Thr Pro Gln Lys His Ala Phe Trp Ala Arg Val
                565                 570                 575
Cys Gly Phe Asn Ala Ile Leu Leu Met Cys Val Asn Ile Phe Phe Tyr
            580                 585                 590
Ala Tyr Phe Ala
        595
```

<210> 65
<211> 393
<212> PRT
<213> homo sapiens

<400> 65

```
Met Asp Ser Leu Lys Asn Glu Asn Tyr Asp Leu Val Phe Val Glu Ala
 1               5                  10                  15
```

```
Phe Asp Phe Cys Ser Phe Leu Ile Ala Glu Lys Leu Val Lys Pro Phe
            20                  25                  30
Val Ala Ile Leu Pro Thr Thr Phe Gly Ser Leu Asp Phe Gly Leu Pro
        35                  40                  45
Ser Pro Leu Ser Tyr Val Pro Val Phe Pro Ser Leu Leu Thr Asp His
    50                  55                  60
Met Asp Phe Trp Gly Arg Val Lys Asn Phe Leu Met Phe Phe Ser Phe
65                  70                  75                  80
Ser Arg Ser Gln Trp Asp Met Gln Ser Thr Phe Asp Asn Thr Ile Lys
                85                  90                  95
Glu His Phe Pro Glu Gly Ser Arg Pro Val Leu Ser His Leu Leu Leu
            100                 105                 110
Lys Ala Glu Leu Trp Phe Val Asn Ser Asp Phe Ala Phe Asp Phe Ala
        115                 120                 125
Arg Pro Leu Leu Pro Asn Thr Val Tyr Ile Gly Gly Leu Met Glu Lys
    130                 135                 140
Pro Ile Lys Pro Val Pro Gln Asp Leu Asp Asn Phe Ile Ala Asn Phe
145                 150                 155                 160
Gly Asp Ala Gly Phe Val Leu Val Ala Phe Gly Ser Met Leu Asn Thr
                165                 170                 175
His Gln Ser Gln Glu Val Leu Lys Lys Met His Asn Ala Phe Ala His
            180                 185                 190
Leu Pro Gln Gly Val Ile Trp Thr Cys Gln Ser Ser His Trp Pro Arg
        195                 200                 205
Asp Val His Leu Ala Thr Asn Val Lys Ile Val Asp Trp Leu Pro Gln
    210                 215                 220
Ser Asp Leu Leu Ala His Pro Ser Ile Arg Leu Phe Val Thr His Gly
225                 230                 235                 240
Gly Gln Asn Ser Val Met Glu Ala Ile Arg His Gly Val Pro Met Val
                245                 250                 255
Gly Leu Pro Val Asn Gly Asp Gln His Gly Asn Met Val Arg Val Val
            260                 265                 270
Ala Lys Asn Tyr Gly Val Ser Ile Arg Leu Asn Gln Val Thr Ala Asp
        275                 280                 285
Thr Leu Thr Leu Thr Met Lys Gln Val Ile Glu Asp Lys Arg Tyr Lys
    290                 295                 300
Ser Ala Val Val Ala Ala Ser Val Ile Leu His Ser Gln Pro Leu Ser
305                 310                 315                 320
Pro Ala Gln Arg Leu Val Gly Trp Ile Asp His Ile Leu Gln Thr Gly
                325                 330                 335
Gly Ala Thr His Leu Lys Pro Tyr Ala Phe Gln Gln Pro Trp His Glu
            340                 345                 350
Gln Tyr Leu Ile Asp Val Phe Val Phe Leu Leu Gly Leu Thr Leu Gly
        355                 360                 365
Thr Met Trp Leu Cys Gly Lys Leu Leu Gly Val Val Ala Arg Trp Leu
    370                 375                 380
Arg Gly Ala Arg Lys Val Lys Lys Thr
385                 390
```

<210> 66
<211> 523
<212> PRT
<213> homo sapiens

<400> 66

```
Met Val Gly Gln Arg Val Leu Leu Leu Val Ala Phe Leu Leu Ser Gly
 1               5                  10                  15
Val Leu Leu Ser Glu Ala Ala Lys Ile Leu Thr Ile Ser Thr Leu Gly
```

```
            20                  25                  30
Gly Ser His Tyr Leu Leu Leu Asp Arg Val Ser Gln Ile Leu Gln Glu
        35                  40                  45
His Gly His Asn Val Thr Met Leu His Gln Ser Gly Lys Phe Leu Ile
    50                  55                  60
Pro Asp Ile Lys Glu Glu Glu Lys Ser Tyr Gln Val Ile Arg Trp Phe
65                  70                  75                  80
Ser Pro Glu Asp His Gln Lys Arg Ile Lys Lys His Phe Asp Ser Tyr
                85                  90                  95
Ile Glu Thr Ala Leu Asp Gly Arg Lys Glu Ser Glu Ala Leu Val Lys
            100                 105                 110
Leu Met Glu Ile Phe Gly Thr Gln Cys Ser Tyr Leu Leu Ser Arg Lys
        115                 120                 125
Asp Ile Met Asp Ser Leu Lys Asn Glu Asn Tyr Asp Leu Val Phe Val
    130                 135                 140
Glu Ala Phe Asp Phe Cys Ser Phe Leu Ile Ala Glu Lys Leu Val Lys
145                 150                 155                 160
Pro Phe Val Ala Ile Leu Pro Thr Thr Phe Gly Ser Leu Asp Phe Gly
                165                 170                 175
Leu Pro Ser Pro Leu Ser Tyr Val Pro Val Phe Pro Ser Leu Leu Thr
            180                 185                 190
Asp His Met Asp Phe Trp Gly Arg Val Lys Asn Phe Leu Met Phe Phe
        195                 200                 205
Ser Phe Ser Arg Ser Gln Trp Asp Met Gln Ser Thr Phe Asp Asn Thr
    210                 215                 220
Ile Lys Glu His Phe Pro Glu Gly Ser Arg Pro Val Leu Ser His Leu
225                 230                 235                 240
Leu Leu Lys Ala Glu Leu Trp Phe Val Asn Ser Asp Phe Ala Phe Asp
                245                 250                 255
Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Ile Gly Gly Leu Met
            260                 265                 270
Glu Lys Pro Ile Lys Pro Val Pro Gln Asp Leu Asp Asn Phe Ile Ala
        275                 280                 285
Asn Phe Gly Asp Ala Gly Phe Val Leu Val Ala Phe Gly Ser Met Leu
    290                 295                 300
Asn Thr His Gln Ser Gln Glu Val Leu Lys Lys Met His Asn Ala Phe
305                 310                 315                 320
Ala His Leu Pro Gln Gly Val Ile Trp Thr Cys Gln Ser Ser His Trp
                325                 330                 335
Pro Arg Asp Val His Leu Ala Thr Asn Val Lys Ile Val Asp Trp Leu
            340                 345                 350
Pro Gln Ser Asp Leu Leu Ala His Pro Ser Ile Arg Leu Phe Val Thr
        355                 360                 365
His Gly Gly Gln Asn Ser Val Met Glu Ala Ile Arg His Gly Val Pro
    370                 375                 380
Met Val Gly Leu Pro Val Asn Gly Asp Gln His Gly Asn Met Val Arg
385                 390                 395                 400
Val Val Ala Lys Asn Tyr Gly Val Ser Ile Arg Leu Asn Gln Val Thr
                405                 410                 415
Ala Asp Thr Leu Thr Leu Thr Met Lys Gln Val Ile Glu Asp Lys Arg
            420                 425                 430
Tyr Lys Ser Ala Val Val Ala Ala Ser Val Ile Leu His Ser Gln Pro
        435                 440                 445
Leu Ser Pro Ala Gln Arg Leu Val Gly Trp Ile Asp His Ile Leu Gln
    450                 455                 460
Thr Gly Gly Ala Thr His Leu Lys Pro Tyr Ala Phe Gln Gln Pro Trp
465                 470                 475                 480
His Glu Gln Tyr Leu Ile Asp Val Phe Val Phe Leu Leu Gly Leu Thr
                485                 490                 495
```

```
Leu Gly Thr Met Trp Leu Cys Gly Lys Leu Leu Gly Val Val Ala Arg
            500                 505                 510
Trp Leu Arg Gly Ala Arg Lys Val Lys Lys Thr
        515                 520
```

<210> 67
<211> 252
<212> PRT
<213> homo sapiens

<400> 67

```
Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe Leu
 1               5                  10                  15
Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu Leu Glu
            20                  25                  30
Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser Arg Val Arg
        35                  40                  45
Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu Met Leu His Asn
    50                  55                  60
Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser Asn Met Glu Tyr Met
65                  70                  75                  80
Thr Trp Asp Asp Glu Leu Glu Lys Ser Ala Ala Ala Trp Ala Ser Gln
                85                  90                  95
Cys Ile Trp Glu His Gly Pro Thr Ser Leu Leu Val Ser Ile Gly Gln
            100                 105                 110
Asn Leu Gly Ala His Trp Gly Arg Tyr Arg Ser Pro Gly Phe His Val
        115                 120                 125
Gln Ser Trp Tyr Asp Glu Val Lys Asp Tyr Thr Tyr Pro Tyr Pro Ser
    130                 135                 140
Glu Cys Asn Pro Trp Cys Pro Glu Arg Cys Ser Gly Pro Met Cys Thr
145                 150                 155                 160
His Tyr Thr Gln Ile Val Trp Ala Thr Thr Asn Lys Ile Gly Cys Ala
                165                 170                 175
Val Asn Thr Cys Arg Lys Met Thr Val Trp Gly Glu Val Trp Glu Asn
            180                 185                 190
Ala Val Tyr Phe Val Cys Asn Tyr Ser Pro Lys Gly Asn Trp Ile Gly
        195                 200                 205
Glu Ala Pro Tyr Lys Asn Gly Arg Pro Cys Ser Glu Cys Pro Pro Ser
    210                 215                 220
Tyr Gly Gly Ser Cys Arg Asn Asn Leu Cys Tyr Arg Gly Arg Lys Phe
225                 230                 235                 240
Thr Pro Asn Thr Phe Ala Met Asn Leu Pro Ser Val
                245                 250
```

<210> 68
<211> 497
<212> PRT
<213> homo sapiens

<400> 68

```
Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe Leu
 1               5                  10                  15
Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu Leu Glu
            20                  25                  30
Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser Arg Val Arg
        35                  40                  45
Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu Met Leu His Asn
```

```
    50                  55                  60
Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser Asn Met Glu Tyr Met
65                  70                  75                  80
Thr Trp Asp Asp Glu Leu Glu Lys Ser Ala Ala Ala Trp Ala Ser Gln
                85                  90                  95
Cys Ile Trp Glu His Gly Pro Thr Ser Leu Leu Val Ser Ile Gly Gln
            100                 105                 110
Asn Leu Gly Ala His Trp Gly Arg Tyr Arg Ser Pro Gly Phe His Val
        115                 120                 125
Gln Ser Trp Tyr Asp Glu Val Lys Asp Tyr Thr Tyr Pro Tyr Pro Ser
    130                 135                 140
Glu Cys Asn Pro Trp Cys Pro Glu Arg Cys Ser Gly Pro Met Cys Thr
145                 150                 155                 160
His Tyr Thr Gln Ile Val Trp Ala Thr Thr Asn Lys Ile Gly Cys Ala
                165                 170                 175
Val Asn Thr Cys Arg Lys Met Thr Val Trp Gly Glu Val Trp Glu Asn
            180                 185                 190
Ala Val Tyr Phe Val Cys Asn Tyr Ser Pro Lys Gly Asn Trp Ile Gly
        195                 200                 205
Glu Ala Pro Tyr Lys Asn Gly Arg Pro Cys Ser Glu Cys Pro Pro Ser
    210                 215                 220
Tyr Gly Gly Ser Cys Arg Asn Asn Leu Cys Tyr Arg Glu Glu Thr Tyr
225                 230                 235                 240
Thr Pro Lys Pro Glu Thr Asp Glu Met Asn Glu Val Glu Thr Ala Pro
                245                 250                 255
Ile Pro Glu Glu Asn His Val Trp Leu Gln Pro Arg Val Met Arg Pro
            260                 265                 270
Thr Lys Pro Lys Lys Thr Ser Ala Val Asn Tyr Met Thr Gln Val Val
        275                 280                 285
Arg Cys Asp Thr Lys Met Lys Asp Arg Cys Lys Gly Ser Thr Cys Asn
    290                 295                 300
Arg Tyr Gln Cys Pro Ala Gly Cys Leu Asn His Lys Ala Lys Ile Phe
305                 310                 315                 320
Gly Thr Leu Phe Tyr Glu Ser Ser Ser Ser Ile Cys Arg Ala Ala Ile
                325                 330                 335
His Tyr Gly Ile Leu Asp Asp Lys Gly Gly Leu Val Asp Ile Thr Arg
            340                 345                 350
Asn Gly Lys Val Pro Phe Phe Val Lys Ser Glu Arg His Gly Val Gln
        355                 360                 365
Ser Leu Ser Lys Tyr Lys Pro Ser Ser Ser Phe Met Val Ser Lys Val
    370                 375                 380
Lys Val Gln Asp Leu Asp Cys Tyr Thr Thr Val Ala Gln Leu Cys Pro
385                 390                 395                 400
Phe Glu Lys Pro Ala Thr His Cys Pro Arg Ile His Cys Pro Ala His
                405                 410                 415
Cys Lys Asp Glu Pro Ser Tyr Trp Ala Pro Val Phe Gly Thr Asn Ile
            420                 425                 430
Tyr Ala Asp Thr Ser Ser Ile Cys Lys Thr Ala Val His Ala Gly Val
        435                 440                 445
Ile Ser Asn Glu Ser Gly Gly Asp Val Asp Val Met Pro Val Asp Lys
    450                 455                 460
Lys Lys Thr Tyr Val Gly Ser Leu Arg Asn Gly Val Gln Ser Glu Ser
465                 470                 475                 480
Leu Gly Thr Pro Arg Asp Gly Lys Ala Phe Arg Ile Phe Ala Val Arg
                485                 490                 495
Gln
```

<210> 69
<211> 438
<212> PRT
<213> homo sapiens

<400> 69

```
Asx Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser
 1               5                  10                  15
Asn Met Glu Tyr Met Thr Trp Asp Asp Glu Leu Glu Lys Ser Ala Ala
            20                  25                  30
Ala Trp Ala Ser Gln Cys Ile Trp Glu His Gly Pro Thr Ser Leu Leu
        35                  40                  45
Val Ser Ile Gly Gln Asn Leu Gly Ala His Trp Gly Arg Tyr Arg Ser
    50                  55                  60
Pro Gly Phe His Val Gln Ser Trp Tyr Asp Glu Val Lys Asp Tyr Thr
65                  70                  75                  80
Tyr Pro Tyr Pro Ser Glu Cys Asn Pro Trp Cys Pro Glu Arg Cys Ser
                85                  90                  95
Gly Pro Met Cys Thr His Tyr Thr Gln Ile Val Trp Ala Thr Thr Asn
            100                 105                 110
Lys Ile Gly Cys Ala Val Asn Thr Cys Arg Lys Met Thr Val Trp Gly
        115                 120                 125
Glu Val Trp Glu Asn Ala Val Tyr Phe Val Cys Asn Tyr Ser Pro Lys
    130                 135                 140
Gly Asn Trp Ile Gly Glu Ala Pro Tyr Lys Asn Gly Arg Pro Cys Ser
145                 150                 155                 160
Glu Cys Pro Pro Ser Tyr Gly Gly Ser Cys Arg Asn Asn Leu Cys Tyr
                165                 170                 175
Arg Glu Glu Thr Tyr Thr Pro Lys Pro Glu Thr Asp Glu Met Asn Glu
            180                 185                 190
Val Glu Thr Ala Pro Ile Pro Glu Glu Asn His Val Trp Leu Gln Pro
        195                 200                 205
Arg Val Met Arg Pro Thr Lys Pro Lys Lys Thr Ser Ala Val Asn Tyr
    210                 215                 220
Met Thr Gln Val Val Arg Cys Asp Thr Lys Met Lys Asp Arg Cys Lys
225                 230                 235                 240
Gly Ser Thr Cys Asn Arg Tyr Gln Cys Pro Ala Gly Cys Leu Asn His
                245                 250                 255
Lys Ala Lys Ile Phe Gly Thr Leu Phe Tyr Glu Ser Ser Ser Ser Ile
            260                 265                 270
Cys Arg Ala Ala Ile His Tyr Gly Ile Leu Asp Asp Lys Gly Gly Leu
        275                 280                 285
Val Asp Ile Thr Arg Asn Gly Lys Val Pro Phe Phe Val Lys Ser Glu
    290                 295                 300
Arg His Gly Val Gln Ser Leu Ser Lys Tyr Lys Pro Ser Ser Ser Phe
305                 310                 315                 320
Met Val Ser Lys Val Lys Val Gln Asp Leu Asp Cys Tyr Thr Thr Val
                325                 330                 335
Ala Gln Leu Cys Pro Phe Glu Lys Pro Ala Thr His Cys Pro Arg Ile
            340                 345                 350
His Cys Pro Ala His Cys Lys Asp Glu Pro Ser Tyr Trp Ala Pro Val
        355                 360                 365
Phe Gly Thr Asn Ile Tyr Ala Asp Thr Ser Ser Ile Cys Lys Thr Ala
    370                 375                 380
Val His Ala Gly Val Ile Ser Asn Glu Ser Gly Gly Asp Val Asp Val
385                 390                 395                 400
Met Pro Val Asp Lys Lys Lys Thr Tyr Val Gly Ser Leu Arg Asn Gly
                405                 410                 415
Val Gln Ser Glu Ser Leu Gly Thr Pro Arg Asp Gly Lys Ala Phe Arg
```

```
            420                 425                 430
Ile Phe Ala Val Arg Gln
        435
```

<210> 70
<211> 308
<212> PRT
<213> homo sapiens

<400> 70

```
Met Val Gly Gly Val Leu Ala Ser Leu Gly Phe Val Phe Ser Ala Phe
 1               5                  10                  15
Ala Ser Asp Leu Leu His Leu Tyr Leu Gly Leu Gly Leu Leu Ala Gly
            20                  25                  30
Phe Gly Trp Ala Leu Val Phe Ala Pro Ala Leu Gly Thr Leu Ser Arg
        35                  40                  45
Tyr Phe Ser Arg Arg Arg Val Leu Ala Val Gly Leu Ala Leu Thr Gly
    50                  55                  60
Asn Gly Ala Ser Ser Leu Leu Leu Ala Pro Ala Leu Gln Leu Leu Leu
65                  70                  75                  80
Asp Thr Phe Gly Trp Arg Gly Ala Leu Leu Leu Leu Gly Ala Ile Thr
                85                  90                  95
Leu His Leu Thr Pro Cys Gly Ala Leu Leu Leu Pro Leu Val Leu Pro
            100                 105                 110
Gly Asp Pro Pro Ala Pro Pro Arg Ser Pro Leu Ala Ala Leu Gly Leu
        115                 120                 125
Ser Leu Phe Thr Arg Arg Ala Phe Ser Ile Phe Ala Leu Gly Thr Ala
    130                 135                 140
Leu Val Gly Gly Gly Tyr Phe Val Pro Tyr Val His Leu Ala Pro His
145                 150                 155                 160
Ala Leu Asp Arg Gly Leu Gly Gly Tyr Gly Ala Ala Leu Val Val Ala
                165                 170                 175
Val Ala Ala Met Gly Asp Ala Gly Ala Arg Leu Val Cys Gly Trp Leu
            180                 185                 190
Ala Asp Gln Gly Trp Val Pro Leu Pro Arg Leu Leu Ala Val Phe Gly
        195                 200                 205
Ala Leu Thr Gly Leu Gly Leu Trp Val Val Gly Leu Val Pro Val Val
    210                 215                 220
Gly Gly Glu Glu Ser Trp Gly Gly Pro Leu Leu Ala Ala Ala Val Ala
225                 230                 235                 240
Tyr Gly Leu Ser Ala Gly Ser Tyr Ala Pro Leu Val Phe Gly Val Leu
                245                 250                 255
Pro Gly Leu Val Gly Val Gly Gly Val Val Gln Ala Thr Gly Leu Val
            260                 265                 270
Met Met Leu Met Ser Leu Gly Gly Leu Leu Gly Pro Pro Leu Ser Gly
        275                 280                 285
Lys Asp Leu Ser Ser Gln Ile Cys Leu Gln Leu Ser Ser Ala Pro Gly
    290                 295                 300
Val Arg Gly Phe
305
```

<210> 71
<211> 447
<212> PRT
<213> homo sapiens

<400> 71

```
Met Thr Pro Gln Pro Ala Gly Pro Pro Asp Gly Gly Trp Gly Trp Val
 1               5                  10                  15
Val Ala Ala Ala Ala Phe Ala Ile Asn Gly Leu Ser Tyr Gly Leu Leu
            20                  25                  30
Arg Ser Leu Gly Leu Ala Phe Pro Asp Leu Ala Glu His Phe Asp Arg
        35                  40                  45
Ser Ala Gln Asp Thr Ala Trp Ile Ser Ala Leu Ala Leu Ala Val Gln
    50                  55                  60
Gln Ala Ala Ser Pro Val Gly Ser Ala Leu Ser Thr Arg Trp Gly Ala
65                  70                  75                  80
Arg Pro Val Val Met Val Gly Gly Val Leu Ala Ser Leu Gly Phe Val
                85                  90                  95
Phe Ser Ala Phe Ala Ser Asp Leu Leu His Leu Tyr Leu Gly Leu Gly
            100                 105                 110
Leu Leu Ala Gly Phe Gly Trp Ala Leu Val Phe Ala Pro Ala Leu Gly
        115                 120                 125
Thr Leu Ser Arg Tyr Phe Ser Arg Arg Arg Val Leu Ala Val Gly Leu
    130                 135                 140
Ala Leu Thr Gly Asn Gly Ala Ser Ser Leu Leu Leu Ala Pro Ala Leu
145                 150                 155                 160
Gln Leu Leu Leu Asp Thr Phe Gly Trp Arg Gly Ala Leu Leu Leu Leu
                165                 170                 175
Gly Ala Ile Thr Leu His Leu Thr Pro Cys Gly Ala Leu Leu Leu Pro
            180                 185                 190
Leu Val Leu Pro Gly Asp Pro Pro Ala Pro Pro Arg Ser Pro Leu Ala
        195                 200                 205
Ala Leu Gly Leu Ser Leu Phe Thr Arg Arg Ala Phe Ser Ile Phe Ala
    210                 215                 220
Leu Gly Thr Ala Leu Val Gly Gly Gly Tyr Phe Val Pro Tyr Val His
225                 230                 235                 240
Leu Ala Pro His Ala Leu Asp Arg Gly Leu Gly Gly Tyr Gly Ala Ala
                245                 250                 255
Leu Val Val Ala Val Ala Ala Met Gly Asp Ala Gly Ala Arg Leu Val
            260                 265                 270
Cys Gly Trp Leu Ala Asp Gln Gly Trp Val Pro Leu Pro Arg Leu Leu
        275                 280                 285
Ala Val Phe Gly Ala Leu Thr Gly Leu Gly Leu Trp Val Val Gly Leu
    290                 295                 300
Val Pro Val Val Gly Gly Glu Glu Ser Trp Gly Gly Pro Leu Leu Ala
305                 310                 315                 320
Ala Ala Val Ala Tyr Gly Leu Ser Ala Gly Ser Tyr Ala Pro Leu Val
                325                 330                 335
Phe Gly Val Leu Pro Gly Leu Val Gly Val Gly Gly Val Val Gln Ala
            340                 345                 350
Thr Gly Leu Val Met Met Leu Met Ser Leu Gly Gly Leu Leu Gly Pro
        355                 360                 365
Pro Leu Ser Gly Phe Leu Arg Asp Glu Thr Gly Asp Phe Thr Ala Ser
    370                 375                 380
Phe Leu Leu Ser Gly Ser Leu Ile Leu Ser Gly Ser Phe Ile Tyr Ile
385                 390                 395                 400
Gly Leu Pro Arg Ala Leu Pro Ser Cys Gly Pro Ala Ser Pro Pro Ala
                405                 410                 415
Thr Pro Pro Pro Glu Thr Gly Glu Leu Leu Pro Ala Pro Gln Ala Val
            420                 425                 430
Leu Leu Ser Pro Gly Gly Pro Gly Ser Thr Leu Asp Thr Thr Cys
        435                 440                 445
```

<210> 72

<211> 458
<212> PRT
<213> homo sapiens

<400> 72

```
Asx Met Ala Arg Arg Thr Glu Pro Pro Asp Gly Gly Trp Gly Trp Val
 1               5                  10                  15
Val Val Leu Ser Ala Phe Phe Gln Ser Ala Leu Val Phe Gly Val Leu
            20                  25                  30
Arg Ser Phe Gly Val Phe Phe Val Glu Phe Val Ala Ala Phe Glu Glu
        35                  40                  45
Gln Ala Ala Arg Val Ser Trp Ile Ala Ser Ile Gly Ile Ala Val Gln
    50                  55                  60
Gln Phe Gly Ser Pro Val Gly Ser Ala Leu Ser Thr Lys Phe Gly Pro
65                  70                  75                  80
Arg Pro Val Val Met Thr Gly Gly Ile Leu Ala Ala Leu Gly Met Leu
                85                  90                  95
Leu Ala Ser Phe Ala Thr Ser Leu Thr His Leu Tyr Leu Ser Ile Gly
            100                 105                 110
Leu Leu Ser Gly Ser Gly Trp Ala Leu Thr Phe Ala Pro Thr Leu Ala
        115                 120                 125
Cys Leu Ser Cys Tyr Phe Ser Arg Arg Arg Ser Leu Ala Thr Gly Leu
    130                 135                 140
Ala Leu Thr Gly Val Gly Leu Ser Ser Phe Thr Phe Ala Pro Phe Phe
145                 150                 155                 160
Gln Trp Leu Leu Ser His Tyr Ala Trp Arg Gly Ser Leu Leu Leu Val
                165                 170                 175
Ser Ala Leu Ser Leu His Leu Val Ala Cys Gly Ala Leu Leu Arg Pro
            180                 185                 190
Pro Ser Leu Ala Glu Asp Pro Ala Val Gly Gly Pro Arg Ala Gln Leu
        195                 200                 205
Thr Ser Leu Leu His His Gly Pro Phe Leu Arg Tyr Thr Val Ala Leu
    210                 215                 220
Thr Leu Ile Asn Thr Gly Tyr Phe Ile Pro Tyr Leu His Leu Val Ala
225                 230                 235                 240
His Leu Gln Asp Leu Asp Trp Asp Pro Leu Pro Ala Ala Phe Leu Leu
                245                 250                 255
Ser Val Val Ala Ile Ser Asp Leu Val Gly Arg Val Val Ser Gly Trp
            260                 265                 270
Leu Gly Asp Ala Val Pro Gly Pro Val Thr Arg Leu Leu Met Leu Trp
        275                 280                 285
Thr Thr Leu Thr Gly Val Ser Leu Ala Leu Phe Pro Val Ala Gln Ala
    290                 295                 300
Pro Thr Ala Leu Val Ala Leu Ala Val Ala Tyr Gly Phe Thr Ser Gly
305                 310                 315                 320
Ala Leu Ala Pro Leu Ala Phe Ser Val Leu Pro Glu Leu Ile Gly Thr
                325                 330                 335
Arg Arg Ile Tyr Cys Gly Leu Gly Leu Leu Gln Met Ile Glu Ser Ile
            340                 345                 350
Gly Gly Leu Leu Gly Pro Pro Leu Ser Gly Tyr Leu Arg Asp Val Ser
        355                 360                 365
Gly Asn Tyr Thr Ala Ser Phe Val Val Ala Gly Ala Phe Leu Leu Ser
    370                 375                 380
Gly Ser Gly Ile Leu Leu Thr Leu Pro His Phe Phe Cys Phe Ser Thr
385                 390                 395                 400
Thr Thr Ser Gly Pro Gln Asp Leu Val Thr Glu Ala Leu Asp Thr Lys
                405                 410                 415
Val Pro Leu Pro Lys Glu Gly Leu Glu Gly Gly Leu Asn Ser Thr Glu
            420                 425                 430
```

```
Ser Gly Pro Glu Ser Gln Ser Leu Thr Ala Pro Gly Leu Leu Leu Pro
        435                 440                 445
Arg Leu Gly Leu His Arg Thr Thr Val Pro
    450                 455
```

<210> 73
<211> 169
<212> PRT
<213> homo sapiens

<400> 73

```
Met Thr Met Lys Thr Ser Gly Ala Thr Cys Asp Ala Asn Ser Val Met
 1               5                  10                  15
Asn Cys Gly Ile Arg Gly Ser Glu Met Phe Ala Glu Met Asp Leu Arg
            20                  25                  30
Ala Ile Lys Pro Tyr Gln Thr Leu Ile Lys Lys Val Gly Gln Arg His
        35                  40                  45
Cys Val Asp Pro Ala Val Ile Ala Ala Ile Ile Ser Arg Glu Ser His
    50                  55                  60
Gly Gly Ser Val Leu Gln Asp Gly Trp Asp His Arg Gly Leu Lys Phe
65                  70                  75                  80
Gly Leu Met Gln Leu Asp Lys Gln Thr Tyr His Pro Val Gly Ala Trp
                85                  90                  95
Asp Ser Lys Glu His Leu Ser Gln Ala Thr Gly Ile Leu Thr Glu Arg
            100                 105                 110
Ile Lys Ala Ile Gln Lys Lys Phe Pro Thr Trp Ser Val Ala Gln His
        115                 120                 125
Leu Lys Gly Gly Leu Ser Ala Phe Lys Ser Gly Ile Glu Ala Ile Ala
    130                 135                 140
Thr Pro Ser Asp Ile Asp Asn Asp Phe Val Asn Asp Ile Ile Ala Arg
145                 150                 155                 160
Ala Lys Phe Tyr Lys Arg Gln Ser Phe
                165
```

<210> 74
<211> 186
<212> PRT
<213> homo sapiens

<400> 74

```
Met Lys Pro His Leu His Pro Arg Leu Tyr His Gly Cys Tyr Gly Asp
 1               5                  10                  15
Ile Met Thr Met Lys Thr Ser Gly Ala Thr Cys Asp Ala Asn Ser Val
            20                  25                  30
Met Asn Cys Gly Ile Arg Gly Ser Glu Met Phe Ala Glu Met Asp Leu
        35                  40                  45
Arg Ala Ile Lys Pro Tyr Gln Thr Leu Ile Lys Lys Val Gly Gln Arg
    50                  55                  60
His Cys Val Asp Pro Ala Val Ile Ala Ala Ile Ile Ser Arg Glu Ser
65                  70                  75                  80
His Gly Gly Ser Val Leu Gln Asp Gly Trp Asp His Arg Gly Leu Lys
                85                  90                  95
Phe Gly Leu Met Gln Leu Asp Lys Gln Thr Tyr His Pro Val Gly Ala
            100                 105                 110
Trp Asp Ser Lys Glu His Leu Ser Gln Ala Thr Gly Ile Leu Thr Glu
        115                 120                 125
Arg Ile Lys Ala Ile Gln Lys Lys Phe Pro Thr Trp Ser Val Ala Gln
```

```
    130                 135                 140
His Leu Lys Gly Gly Leu Ser Ala Phe Lys Ser Gly Ile Glu Ala Ile
145                 150                 155                 160
Ala Thr Pro Ser Asp Ile Asp Asn Asp Phe Val Asn Asp Ile Ile Ala
                165                 170                 175
Arg Ala Lys Phe Tyr Lys Arg Gln Ser Phe
            180                 185
```

<210> 75
<211> 675
<212> PRT
<213> homo sapiens

<400> 75

```
Met Glu Ser Gly Thr Ser Ser Pro Gln Pro Pro Gln Leu Asp Pro Leu
 1               5                  10                  15
Asp Ala Phe Pro Gln Lys Gly Leu Glu Pro Gly Asp Ile Ala Val Leu
            20                  25                  30
Val Leu Tyr Phe Leu Phe Val Leu Ala Val Gly Leu Trp Ser Thr Val
        35                  40                  45
Lys Thr Lys Arg Asp Thr Val Lys Gly Tyr Phe Leu Ala Gly Gly Asp
    50                  55                  60
Met Val Trp Trp Pro Val Gly Ala Ser Leu Phe Ala Ser Asn Val Gly
65                  70                  75                  80
Ser Gly His Phe Ile Gly Leu Ala Gly Ser Gly Ala Ala Thr Gly Ile
                85                  90                  95
Ser Val Ser Ala Tyr Glu Leu Asn Gly Leu Phe Ser Val Leu Met Leu
            100                 105                 110
Ala Trp Ile Phe Leu Pro Ile Tyr Ile Ala Gly Gln Val Thr Thr Met
        115                 120                 125
Pro Glu Tyr Leu Arg Lys Arg Phe Gly Gly Ile Arg Ile Pro Ile Ile
    130                 135                 140
Leu Ala Val Leu Tyr Leu Phe Ile Tyr Ile Phe Thr Lys Ile Ser Val
145                 150                 155                 160
Asp Met Tyr Ala Gly Ala Ile Phe Ile Gln Gln Ser Leu His Leu Asp
                165                 170                 175
Leu Tyr Leu Ala Ile Val Gly Leu Leu Ala Ile Thr Ala Val Tyr Thr
            180                 185                 190
Val Ala Gly Gly Leu Ala Ala Val Ile Tyr Thr Asp Ala Leu Gln Thr
        195                 200                 205
Leu Ile Met Leu Ile Gly Ala Leu Thr Leu Met Gly Tyr Ser Phe Ala
    210                 215                 220
Ala Val Gly Gly Met Glu Gly Leu Lys Glu Lys Tyr Phe Leu Ala Leu
225                 230                 235                 240
Ala Ser Asn Arg Ser Glu Asn Ser Ser Cys Gly Leu Pro Arg Glu Asp
                245                 250                 255
Ala Phe His Ile Phe Arg Asp Pro Leu Thr Ser Asp Leu Pro Trp Pro
            260                 265                 270
Gly Val Leu Phe Gly Met Ser Ile Pro Ser Leu Trp Tyr Trp Cys Thr
        275                 280                 285
Asp Gln Val Ile Val Gln Arg Thr Leu Ala Ala Lys Asn Leu Ser His
    290                 295                 300
Ala Lys Gly Gly Ala Leu Met Ala Ala Tyr Leu Lys Val Leu Pro Leu
305                 310                 315                 320
Phe Ile Met Val Phe Pro Gly Met Val Ser Arg Ile Leu Phe Pro Asp
                325                 330                 335
Gln Val Ala Cys Ala Asp Pro Glu Ile Cys Gln Lys Ile Cys Ser Asn
            340                 345                 350
```

```
Pro Ser Gly Cys Ser Asp Ile Ala Tyr Pro Lys Leu Val Leu Glu Leu
        355                 360                 365
Leu Pro Thr Gly Leu Arg Gly Leu Met Met Ala Val Met Val Ala Ala
    370                 375                 380
Leu Met Ser Ser Leu Thr Ser Ile Phe Asn Ser Ala Ser Thr Ile Phe
385                 390                 395                 400
Thr Met Asp Leu Trp Asn His Leu Arg Pro Arg Ala Ser Glu Lys Glu
                405                 410                 415
Leu Met Ile Val Gly Arg Val Phe Val Leu Leu Leu Val Leu Val Ser
            420                 425                 430
Ile Leu Trp Ile Pro Val Val Gln Ala Ser Gln Gly Gly Gln Leu Phe
        435                 440                 445
Ile Tyr Ile Gln Ser Ile Ser Ser Tyr Leu Gln Pro Pro Val Ala Val
    450                 455                 460
Val Phe Ile Met Gly Cys Phe Trp Lys Arg Thr Asn Glu Lys Gly Ala
465                 470                 475                 480
Phe Trp Gly Leu Ile Ser Gly Leu Leu Leu Gly Leu Val Arg Leu Val
                485                 490                 495
Leu Asp Phe Ile Tyr Val Gln Pro Arg Cys Asp Gln Pro Asp Glu Arg
            500                 505                 510
Pro Val Leu Val Lys Ser Ile His Tyr Leu Tyr Phe Ser Met Ile Leu
        515                 520                 525
Ser Thr Val Thr Leu Ile Thr Val Ser Thr Val Ser Trp Phe Thr Glu
    530                 535                 540
Pro Pro Ser Lys Glu Met Val Ser His Leu Thr Trp Phe Thr Arg His
545                 550                 555                 560
Asp Pro Val Val Gln Lys Glu Gln Ala Pro Pro Ala Ala Pro Leu Ser
                565                 570                 575
Leu Thr Leu Ser Gln Asn Gly Met Pro Glu Ala Ser Ser Ser Ser Ser
            580                 585                 590
Val Gln Phe Glu Met Val Gln Glu Asn Thr Ser Lys Thr His Ser Cys
        595                 600                 605
Asp Met Thr Pro Lys Gln Ser Lys Val Val Lys Ala Ile Leu Trp Leu
    610                 615                 620
Cys Gly Ile Gln Glu Lys Gly Lys Glu Glu Leu Pro Ala Arg Ala Glu
625                 630                 635                 640
Ala Ile Ile Val Ser Leu Glu Glu Asn Pro Leu Val Lys Thr Leu Leu
                645                 650                 655
Asp Val Asn Leu Ile Phe Cys Val Ser Cys Ala Ile Phe Ile Trp Gly
            660                 665                 670
Tyr Phe Ala
        675
```

<210> 76
<211> 485
<212> PRT
<213> homo sapiens

<400> 76

```
Met Glu Pro Cys Trp Gly Glu Gly Leu Phe His Leu Ala Pro Pro Arg
 1               5                  10                  15
His His Pro Gln Lys Ala Asp Trp His Phe Cys Pro Gln His Ile Gln
            20                  25                  30
Glu Phe Thr Asn Glu Thr Trp Gln Ala Arg Thr Gly Glu Pro Leu Pro
        35                  40                  45
Asp His Leu Val Leu Leu Met Trp Ser Leu Ile Val Ser Leu Tyr Pro
    50                  55                  60
Leu Gly Gly Leu Phe Gly Ala Leu Leu Ala Gly Pro Leu Ala Ile Thr
```

65 70 75 80
Leu Gly Arg Lys Lys Ser Leu Leu Val Asn Asn Ile Phe Val Val Ser
85 90 95
Ala Ala Ile Leu Phe Gly Phe Ser Arg Lys Ala Gly Ser Phe Glu Met
100 105 110
Ile Met Leu Gly Arg Leu Leu Val Gly Val Asn Ala Gly Val Ser Met
115 120 125
Asn Ile Gln Pro Met Tyr Leu Gly Glu Ser Ala Pro Lys Glu Leu Arg
130 135 140
Gly Ala Val Ala Met Ser Ser Ala Ile Phe Thr Ala Leu Gly Ile Val
145 150 155 160
Met Gly Gln Val Val Gly Leu Arg Glu Leu Leu Gly Gly Pro Gln Ala
165 170 175
Trp Pro Leu Leu Leu Ala Ser Cys Leu Val Pro Gly Ala Leu Gln Leu
180 185 190
Ala Ser Leu Pro Leu Leu Pro Glu Ser Pro Arg Tyr Leu Leu Ile Asp
195 200 205
Cys Gly Asp Thr Glu Ala Cys Leu Ala Ala Leu Arg Arg Leu Arg Gly
210 215 220
Ser Gly Asp Leu Ala Gly Glu Leu Glu Glu Leu Glu Glu Glu Arg Ala
225 230 235 240
Ala Cys Gln Gly Cys Arg Ala Arg Arg Pro Trp Glu Leu Phe Gln His
245 250 255
Arg Ala Leu Arg Arg Gln Val Thr Ser Leu Val Val Leu Gly Ser Ala
260 265 270
Met Glu Leu Cys Gly Asn Asp Ser Val Tyr Ala Tyr Ala Ser Ser Val
275 280 285
Phe Arg Lys Ala Gly Val Pro Glu Ala Lys Ile Gln Tyr Ala Ile Ile
290 295 300
Gly Thr Gly Ser Cys Glu Leu Leu Thr Ala Val Val Ser Cys Val Val
305 310 315 320
Ile Glu Arg Val Gly Arg Arg Val Leu Leu Ile Gly Gly Tyr Ser Leu
325 330 335
Met Thr Cys Trp Gly Ser Ile Phe Thr Val Ala Leu Cys Leu Gln Ser
340 345 350
Ser Phe Pro Trp Thr Leu Tyr Leu Ala Met Ala Cys Ile Phe Ala Phe
355 360 365
Ile Leu Ser Phe Gly Ile Gly Pro Ala Gly Val Thr Gly Ile Leu Ala
370 375 380
Thr Glu Leu Phe Asp Gln Met Ala Arg Pro Ala Ala Cys Met Val Cys
385 390 395 400
Gly Ala Leu Met Trp Ile Met Leu Ile Leu Val Gly Leu Gly Phe Pro
405 410 415
Phe Ile Met Glu Ala Leu Ser His Phe Leu Tyr Val Pro Phe Leu Gly
420 425 430
Val Cys Val Cys Gly Ala Ile Tyr Thr Gly Leu Phe Leu Pro Glu Thr
435 440 445
Lys Gly Lys Thr Phe Gln Glu Ile Ser Lys Glu Leu His Arg Leu Asn
450 455 460
Phe Pro Arg Arg Ala Gln Gly Pro Thr Trp Arg Ser Leu Glu Val Ile
465 470 475 480
Gln Ser Thr Glu Leu
485

<210> 77
<211> 496
<212> PRT
<213> homo sapiens

<400> 77

```
Met Arg Ala Leu Arg Arg Leu Ile Gln Gly Arg Ile Leu Leu Leu Thr
 1               5                  10                  15
Ile Cys Ala Ala Gly Ile Gly Gly Thr Phe Gln Phe Gly Tyr Asn Leu
            20                  25                  30
Ser Ile Ile Asn Ala Pro Thr Leu His Ile Gln Glu Phe Thr Asn Glu
        35                  40                  45
Thr Trp Gln Ala Arg Thr Gly Glu Pro Leu Pro Asp His Leu Val Leu
    50                  55                  60
Leu Met Trp Ser Leu Ile Val Ser Leu Tyr Pro Leu Gly Gly Leu Phe
65                  70                  75                  80
Gly Ala Leu Leu Ala Gly Pro Leu Ala Ile Thr Leu Gly Arg Lys Lys
                85                  90                  95
Ser Leu Leu Val Asn Asn Ile Phe Val Val Ser Ala Ala Ile Leu Phe
            100                 105                 110
Gly Phe Ser Arg Lys Ala Gly Ser Phe Glu Met Ile Met Leu Gly Arg
        115                 120                 125
Leu Leu Val Gly Val Asn Ala Gly Val Ser Met Asn Ile Gln Pro Met
    130                 135                 140
Tyr Leu Gly Glu Ser Ala Pro Lys Glu Leu Arg Gly Ala Val Ala Met
145                 150                 155                 160
Ser Ser Ala Ile Phe Thr Ala Leu Gly Ile Val Met Gly Gln Val Val
                165                 170                 175
Gly Leu Arg Glu Leu Leu Gly Gly Pro Gln Ala Trp Pro Leu Leu Leu
            180                 185                 190
Ala Ser Cys Leu Val Pro Gly Ala Leu Gln Leu Ala Ser Leu Pro Leu
        195                 200                 205
Leu Pro Glu Ser Pro Arg Tyr Leu Leu Ile Asp Cys Gly Asp Thr Glu
    210                 215                 220
Ala Cys Leu Ala Ala Leu Arg Arg Leu Arg Gly Ser Gly Asp Leu Ala
225                 230                 235                 240
Gly Glu Leu Glu Glu Leu Glu Glu Glu Arg Ala Ala Cys Gln Gly Cys
                245                 250                 255
Arg Ala Arg Arg Pro Trp Glu Leu Phe Gln His Arg Ala Leu Arg Arg
            260                 265                 270
Gln Val Thr Ser Leu Val Val Leu Gly Ser Ala Met Glu Leu Cys Gly
        275                 280                 285
Asn Asp Ser Val Tyr Ala Tyr Ala Ser Ser Val Phe Arg Lys Ala Gly
    290                 295                 300
Val Pro Glu Ala Lys Ile Gln Tyr Ala Ile Ile Gly Thr Gly Ser Cys
305                 310                 315                 320
Glu Leu Leu Thr Ala Val Val Ser Cys Val Val Ile Glu Arg Val Gly
                325                 330                 335
Arg Arg Val Leu Leu Ile Gly Gly Tyr Ser Leu Met Thr Cys Trp Gly
            340                 345                 350
Ser Ile Phe Thr Val Ala Leu Cys Leu Gln Ser Ser Phe Pro Trp Thr
        355                 360                 365
Leu Tyr Leu Ala Met Ala Cys Ile Phe Ala Phe Ile Leu Ser Phe Gly
    370                 375                 380
Ile Gly Pro Ala Gly Val Thr Gly Ile Leu Ala Thr Glu Leu Phe Asp
385                 390                 395                 400
Gln Met Ala Arg Pro Ala Ala Cys Met Val Cys Gly Ala Leu Met Trp
                405                 410                 415
Ile Met Leu Ile Leu Val Gly Leu Gly Phe Pro Phe Ile Met Glu Ala
            420                 425                 430
Leu Ser His Phe Leu Tyr Val Pro Phe Leu Gly Val Cys Val Cys Gly
        435                 440                 445
Ala Ile Tyr Thr Gly Leu Phe Leu Pro Glu Thr Lys Gly Lys Thr Phe
```

```
    450                 455                 460
Gln Glu Ile Ser Lys Glu Leu His Arg Leu Asn Phe Pro Arg Arg Ala
465                 470                 475                 480
Gln Gly Pro Thr Trp Arg Ser Leu Glu Val Ile Gln Ser Thr Glu Leu
                485                 490                 495
```

<210> 78
<211> 500
<212> PRT
<213> homo sapiens

<400> 78

```
Asx Met Leu His Ala Leu Leu Arg Ser Arg Met Ile Gln Gly Arg Ile
 1               5                  10                  15
Leu Leu Leu Thr Ile Cys Ala Ala Gly Ile Gly Gly Thr Phe Gln Phe
            20                  25                  30
Gly Tyr Asn Leu Ser Ile Ile Asn Ala Pro Thr Leu His Ile Gln Glu
        35                  40                  45
Phe Thr Asn Glu Thr Trp Gln Ala Arg Thr Gly Glu Pro Leu Pro Asp
    50                  55                  60
His Leu Val Leu Leu Met Trp Ser Leu Ile Val Ser Leu Tyr Pro Leu
65                  70                  75                  80
Gly Gly Leu Phe Gly Ala Leu Leu Ala Gly Pro Leu Ala Ile Thr Leu
                85                  90                  95
Gly Arg Lys Lys Ser Leu Leu Val Asn Asn Ile Phe Val Val Ser Ala
            100                 105                 110
Ala Ile Leu Phe Gly Phe Ser Arg Lys Ala Gly Ser Phe Glu Met Ile
        115                 120                 125
Met Leu Gly Arg Leu Leu Val Gly Val Asn Ala Gly Val Ser Met Asn
    130                 135                 140
Ile Gln Pro Met Tyr Leu Gly Glu Ser Ala Pro Lys Glu Leu Arg Gly
145                 150                 155                 160
Ala Val Ala Met Ser Ser Ala Ile Phe Thr Ala Leu Gly Ile Val Met
                165                 170                 175
Gly Gln Val Val Gly Leu Arg Glu Leu Leu Gly Gly Pro Gln Ala Trp
            180                 185                 190
Pro Leu Leu Leu Ala Ser Cys Leu Val Pro Gly Ala Leu Gln Leu Ala
        195                 200                 205
Ser Leu Pro Leu Leu Pro Glu Ser Pro Arg Tyr Leu Leu Ile Asp Cys
    210                 215                 220
Gly Asp Thr Glu Ala Cys Leu Ala Ala Leu Arg Arg Leu Arg Gly Ser
225                 230                 235                 240
Gly Asp Leu Ala Gly Glu Leu Glu Glu Leu Glu Glu Glu Arg Ala Ala
                245                 250                 255
Cys Gln Gly Cys Arg Ala Arg Arg Pro Trp Glu Leu Phe Gln His Arg
            260                 265                 270
Ala Leu Arg Arg Gln Val Thr Ser Leu Val Val Leu Gly Ser Ala Met
        275                 280                 285
Glu Leu Cys Gly Asn Asp Ser Val Tyr Ala Tyr Ala Ser Ser Val Phe
    290                 295                 300
Arg Lys Ala Gly Val Pro Glu Ala Lys Ile Gln Tyr Ala Ile Ile Gly
305                 310                 315                 320
Thr Gly Ser Cys Glu Leu Leu Thr Ala Val Val Ser Cys Val Val Ile
                325                 330                 335
Glu Arg Val Gly Arg Arg Val Leu Leu Ile Gly Gly Tyr Ser Leu Met
            340                 345                 350
Thr Cys Trp Gly Ser Ile Phe Thr Val Ala Leu Cys Leu Gln Ser Ser
        355                 360                 365
```

```
Phe Pro Trp Thr Leu Tyr Leu Ala Met Ala Cys Ile Phe Ala Phe Ile
    370                 375                 380
Leu Ser Phe Gly Ile Gly Pro Ala Gly Val Thr Gly Ile Leu Ala Thr
385                 390                 395                 400
Glu Leu Phe Asp Gln Met Ala Arg Pro Ala Ala Cys Met Val Cys Gly
                405                 410                 415
Ala Leu Met Trp Ile Met Leu Ile Leu Val Gly Leu Gly Phe Pro Phe
            420                 425                 430
Ile Met Glu Ala Leu Ser His Phe Leu Tyr Val Pro Phe Leu Gly Val
        435                 440                 445
Cys Val Cys Gly Ala Ile Tyr Thr Gly Leu Phe Leu Pro Glu Thr Lys
    450                 455                 460
Gly Lys Thr Phe Gln Glu Ile Ser Lys Glu Leu His Arg Leu Asn Phe
465                 470                 475                 480
Pro Arg Arg Ala Gln Gly Pro Thr Trp Arg Ser Leu Glu Val Ile Gln
                485                 490                 495
Ser Thr Glu Leu
            500
```

<210> 79
<211> 1358
<212> PRT
<213> homo sapiens

<400> 79

```
Met Val Val Val Lys Pro Met Asn Thr Met Ala Pro Val Val Thr Arg
 1               5                  10                  15
Asn Thr Gly Leu Ile Leu Tyr Glu Gly Gln Ser Arg Pro Leu Thr Gly
            20                  25                  30
Pro Ala Gly Ser Gly Pro Gln Asn Leu Val Ile Ser Asp Glu Asp Asp
        35                  40                  45
Leu Glu Ala Val Arg Leu Glu Val Val Ala Gly Leu Arg His Gly His
    50                  55                  60
Leu Val Ile Leu Gly Ala Ser Ser Gly Ser Ser Ala Pro Lys Ser Phe
65                  70                  75                  80
Thr Val Ala Glu Leu Ala Ala Gly Gln Val Val Tyr Gln His Asp Asp
                85                  90                  95
Arg Asp Gly Ser Leu Ser Asp Asn Leu Val Leu Arg Met Val Asp Gly
            100                 105                 110
Gly Gly Arg His Gln Val Gln Phe Leu Phe Pro Ile Thr Leu Val Pro
        115                 120                 125
Val Asp Asp Gln Pro Pro Val Leu Asn Ala Asn Thr Gly Leu Thr Leu
    130                 135                 140
Ala Glu Gly Glu Thr Val Pro Ile Leu Pro Leu Ser Leu Ser Ala Thr
145                 150                 155                 160
Asp Met Asp Ser Asp Asp Ser Leu Leu Leu Phe Val Leu Glu Ser Pro
                165                 170                 175
Phe Leu Thr Thr Gly His Leu Leu Leu Arg Gln Thr His Pro Pro His
            180                 185                 190
Glu Lys Gln Glu Leu Leu Arg Gly Leu Trp Arg Lys Glu Gly Ala Phe
        195                 200                 205
Tyr Glu Arg Thr Val Thr Glu Trp Gln Gln Gln Asp Ile Thr Glu Gly
    210                 215                 220
Arg Leu Phe Tyr Arg His Ser Gly Pro His Ser Pro Gly Pro Val Thr
225                 230                 235                 240
Asp Gln Phe Thr Phe Arg Val Gln Asp Asn His Asp Pro Pro Asn Gln
                245                 250                 255
Ser Gly Leu Gln Arg Phe Val Ile Arg Ile His Pro Val Asp Arg Leu
```

```
            260                 265                 270
Pro Pro Glu Leu Gly Ser Gly Cys Pro Leu Arg Met Val Val Gln Glu
        275                 280                 285
Ser Gln Leu Thr Pro Leu Arg Lys Lys Trp Leu Arg Tyr Thr Asp Leu
    290                 295                 300
Asp Thr Asp Asp Arg Glu Leu Arg Tyr Thr Val Thr Gln Ser Pro Thr
305                 310                 315                 320
Asp Thr Asp Glu Asn His Leu Pro Ala Pro Leu Gly Thr Leu Val Leu
                325                 330                 335
Thr Asp Asn Pro Ser Val Val Val Thr His Phe Thr Gln Ala Gln Ile
            340                 345                 350
Asn His His Lys Ile Ala Tyr Arg Pro Pro Gly Gln Glu Leu Gly Val
        355                 360                 365
Ala Thr Arg Val Ala Gln Phe Gln Phe Gln Val Glu Asp Arg Ala Gly
    370                 375                 380
Asn Val Ala Pro Gly Thr Phe Thr Leu Tyr Leu His Pro Val Asp Asn
385                 390                 395                 400
Gln Pro Pro Glu Ile Leu Asn Thr Gly Phe Thr Ile Gln Glu Lys Gly
                405                 410                 415
His His Ile Leu Ser Glu Thr Glu Leu His Val Asn Asp Val Asp Thr
            420                 425                 430
Asp Val Ala His Ile   r Phe Thr Leu Thr Gln Ala Pro Lys His Gly
        435                 440                 445
His Met Arg Val Ser Gly Gln Ile Leu His Val Gly Gly Leu Phe His
    450                 455                 460
Leu Glu Asp Ile Lys Gln Gly Arg Val Ser Tyr Ala His Asn Gly Asp
465                 470                 475                 480
Lys Ser Leu Thr Asp Ser Cys Ser Leu Glu Val Ser Asp Arg His His
                485                 490                 495
Val Val Pro Ile Thr Leu Arg Val Asn Val Arg Pro Val Asp Asp Glu
            500                 505                 510
Val Pro Ile Leu Ser His Pro Thr Gly Thr Leu Glu Ser Tyr Leu Asp
        515                 520                 525
Val Leu Glu Asn Gly Ala Thr Glu Ile Thr Ala Asn Val Ile Lys Gly
    530                 535                 540
Thr Asn Glu Glu Thr Asp Asp Leu Met Leu Thr Phe Leu Leu Glu Asp
545                 550                 555                 560
Pro Pro Leu Tyr Gly Glu Ile Leu Val Asn Gly Ile Pro Ala Glu Gln
                565                 570                 575
Phe Thr Gln Arg Asp Ile Leu Glu Gly Ser Val Val Tyr Thr His Thr
            580                 585                 590
Ser Gly Glu Ile Gly Leu Leu Pro Lys Ala Asp Ser Phe Asn Leu Ser
        595                 600                 605
Leu Ser Asp Met Ser Gln Glu Trp Arg Ile Gly Gly Asn Thr Ile Gln
    610                 615                 620
Gly Val Thr Ile Trp Val Thr Ile Leu Pro Val Asp Ser Gln Ala Pro
625                 630                 635                 640
Glu Ile Phe Val Gly Glu Gln Leu Ile Val Met Glu Gly Asp Lys Ser
                645                 650                 655
Val Ile Thr Ser Val His Ile Ser Ala Glu Asp Val Asp Ser Leu Asn
            660                 665                 670
Asp Asp Ile Leu Cys Thr Ile Val Ile Gln Pro Thr Ser Gly Tyr Val
        675                 680                 685
Glu Asn Ile Ser Pro Ala Pro Gly Ser Glu Lys Ser Arg Ala Gly Ile
    690                 695                 700
Ala Ile Ser Ala Phe Asn Leu Lys Asp Leu Arg Gln Gly His Ile Asn
705                 710                 715                 720
Tyr Val Gln Ser Val His Lys Gly Val Glu Pro Val Glu Asp Arg Phe
                725                 730                 735
```

Val Phe Arg Cys Ser Asp Gly Ile Asn Phe Ser Glu Arg Gln Phe Phe
740 745 750
Pro Ile Val Ile Ile Pro Thr Asn Asp Glu Gln Pro Glu Met Phe Met
755 760 765
Arg Glu Phe Met Val Met Glu Gly Met Ser Leu Val Ile Asp Thr Pro
770 775 780
Ile Leu Asn Ala Ala Asp Ala Asp Val Pro Leu Asp Asp Leu Thr Phe
785 790 795 800
Thr Ile Thr Gln Phe Pro Thr His Gly His Ile Met Asn Gln Leu Ile
805 810 815
Asn Gly Thr Val Leu Val Glu Ser Phe Thr Leu Asp Gln Ile Ile Glu
820 825 830
Ser Ser Ser Ile Ile Tyr Glu His Asp Asp Ser Glu Thr Gln Glu Asp
835 840 845
Ser Phe Val Ile Lys Leu Thr Asp Gly Lys His Ser Val Glu Lys Thr
850 855 860
Val Leu Ile Ile Val Ile Pro Val Asp Asp Glu Thr Pro Arg Met Thr
865 870 875 880
Ile Asn Asn Gly Leu Glu Ile Glu Ile Gly Asp Thr Lys Ile Ile Asn
885 890 895
Asn Lys Ile Leu Met Ala Thr Asp Leu Asp Ser Glu Asp Lys Ser Leu
900 905 910
Val Tyr Ile Ile Arg Tyr Gly Pro Gly His Gly Leu Leu Gln Arg Arg
915 920 925
Lys Pro Thr Gly Ala Phe Glu Asn Ile Thr Leu Gly Met Asn Phe Thr
930 935 940
Gln Asp Glu Val Asp Arg Asn Leu Ile Gln Tyr Val His Leu Gly Gln
945 950 955 960
Glu Gly Ile Arg Asp Leu Ile Lys Phe Asp Val Thr Asp Gly Ile Asn
965 970 975
Pro Leu Ile Asp Arg Tyr Phe Tyr Val Ser Ile Gly Ser Ile Asp Ile
980 985 990
Val Phe Pro Asp Val Ile Ser Lys Gly Val Ser Leu Lys Glu Gly Gly
995 1000 1005
Lys Val Thr Leu Thr Thr Asp Leu Leu Ser Thr Ser Asp Leu Asn Ser
1010 1015 1020
Pro Asp Glu Asn Leu Val Phe Thr Ile Thr Arg Ala Pro Met Arg Gly
1025 1030 1035 1040
His Leu Glu Cys Thr Asp Gln Pro Gly Val Ser Ile Thr Ser Phe Thr
1045 1050 1055
Gln Leu Gln Leu Ala Gly Asn Lys Ile Tyr Tyr Ile His Thr Ala Asp
1060 1065 1070
Asp Glu Val Lys Met Asp Ser Phe Glu Phe Gln Val Thr Asp Gly Arg
1075 1080 1085
Asn Pro Val Phe Arg Thr Phe Arg Ile Ser Ile Ser Asp Val Asp Asn
1090 1095 1100
Lys Lys Pro Val Val Thr Ile His Lys Leu Val Val Ser Glu Ser Glu
1105 1110 1115 1120
Asn Lys Leu Ile Thr Pro Phe Glu Leu Thr Val Glu Asp Arg Asp Thr
1125 1130 1135
Pro Asp Lys Leu Leu Lys Phe Thr Ile Thr Gln Val Pro Ile His Gly
1140 1145 1150
His Leu Leu Phe Asn Asn Thr Arg Pro Val Met Val Phe Thr Lys Gln
1155 1160 1165
Asp Leu Asn Glu Asn Leu Ile Ser Tyr Lys His Asp Gly Thr Glu Ser
1170 1175 1180
Ser Glu Asp Ser Phe Ser Phe Thr Val Thr Asp Gly Thr His Thr Asp
1185 1190 1195 1200
Phe Tyr Val Phe Pro Asp Thr Val Phe Glu Thr Arg Arg Pro Gln Val

```
                1205                1210                1215
Met Lys Ile Gln Val Leu Ala Val Asp Asn Ser Val Pro Gln Ile Ala
            1220                1225                1230
Val Asn Lys Gly Ala Ser Thr Leu Arg Thr Leu Ala Thr Gly His Leu
        1235                1240                1245
Gly Phe Met Ile Thr Ser Lys Ile Leu Lys Val Glu Asp Arg Asp Ser
    1250                1255                1260
Leu His Ile Ser Leu Arg Phe Ile Val Thr Glu Ala Pro Gln His Gly
1265                1270                1275                1280
Tyr Leu Leu Asn Leu Asp Lys Gly Asn His Ser Ile Thr Gln Phe Thr
                1285                1290                1295
Gln Ala Asp Ile Asp Asp Met Lys Ile Cys Tyr Val Leu Arg Glu Gly
            1300                1305                1310
Ala Asn Ala Thr Ser Asp Met Phe Tyr Phe Ala Val Glu Asp Gly Gly
        1315                1320                1325
Lys Tyr Ser Pro Leu Leu Val Val Thr Ala Arg Arg Asp Ala Phe Leu
    1330                1335                1340
Gly Cys Ser Leu Met Thr Leu Leu Gln Glu Val Phe Ile Lys
1345                1350                1355


<210> 80
<211> 3105
<212> PRT
<213> homo sapiens

<400> 80
Met Ala Arg Ser Trp Leu Thr Ala Thr Ser Thr Ser Arg Pro Ala Ala
 1               5                  10                  15
Phe Gly Arg Ala Leu Leu Ser Pro Gly Leu Ala Gly Ala Ala Gly Val
            20                  25                  30
Pro Ala Glu Glu Ala Ile Val Leu Ala Asn Arg Gly Leu Arg Val Pro
        35                  40                  45
Phe Gly Arg Glu Val Trp Leu Asp Pro Leu His Asp Leu Val Leu Gln
    50                  55                  60
Val Gln Pro Gly Asp Arg Cys Ala Val Ser Val Leu Asp Asn Asp Ala
65                  70                  75                  80
Leu Ala Gln Arg Pro Gly Arg Leu Ser Pro Lys Arg Phe Pro Cys Asp
                85                  90                  95
Phe Gly Pro Gly Glu Val Arg Tyr Ser His Leu Gly Ala Arg Ser Pro
            100                 105                 110
Ser Arg Asp Arg Val Arg Leu Gln Leu Arg Tyr Asp Ala Pro Gly Gly
        115                 120                 125
Ala Val Val Leu Pro Leu Val Leu Glu Val Glu Val Val Phe Thr Gln
    130                 135                 140
Leu Glu Val Val Thr Arg Asn Leu Pro Leu Val Val Glu Glu Leu Leu
145                 150                 155                 160
Gly Thr Ser Asn Ala Leu Asp Ala Arg Ser Leu Glu Phe Ala Phe Gln
                165                 170                 175
Pro Glu Thr Glu Glu Cys Arg Val Gly Ile Leu Ser Gly Leu Gly Ala
            180                 185                 190
Leu Pro Arg Tyr Gly Glu Leu Leu His Tyr Pro Gln Val Pro Gly Gly
        195                 200                 205
Ala Arg Glu Gly Gly Ala Pro Glu Thr Leu Leu Met Asp Cys Lys Ala
    210                 215                 220
Phe Gln Glu Leu Gly Val Arg Tyr Arg His Thr Ala Ala Ser Arg Ser
225                 230                 235                 240
Pro Asn Arg Asp Trp Ile Pro Met Val Val Glu Leu Arg Ser Arg Gly
                245                 250                 255
```

```
Ala Pro Val Gly Ser Pro Ala Leu Lys Arg Glu His Phe Gln Val Leu
            260                 265                 270
Val Arg Ile Arg Gly Gly Ala Glu Asn Thr Ala Pro Lys Pro Ser Phe
        275                 280                 285
Val Ala Met Met Met Met Glu Val Asp Gln Phe Val Leu Thr Ala Leu
    290                 295                 300
Thr Pro Asp Met Leu Ala Ala Glu Asp Ala Glu Ser Pro Ser Asp Leu
305                 310                 315                 320
Leu Ile Phe Asn Leu Thr Ser Pro Phe Gln Pro Gly Gln Gly Tyr Leu
                325                 330                 335
Val Ser Thr Asp Asp Arg Ser Leu Pro Leu Ser Ser Phe Thr Gln Arg
            340                 345                 350
Asp Leu Arg Leu Leu Lys Ile Ala Tyr Gln Pro Pro Ser Glu Asp Ser
        355                 360                 365
Asp Gln Glu Arg Leu Phe Glu Leu Glu Leu Glu Val Val Asp Leu Glu
    370                 375                 380
Gly Ala Ala Ser Asp Pro Phe Ala Phe Met Val Val Val Lys Pro Met
385                 390                 395                 400
Asn Thr Met Ala Pro Val Val Thr Arg Asn Thr Gly Leu Ile Leu Tyr
                405                 410                 415
Glu Gly Gln Ser Arg Pro Leu Thr Gly Pro Ala Gly Ser Gly Pro Gln
            420                 425                 430
Asn Leu Val Ile Ser Asp Glu Asp Asp Leu Glu Ala Val Arg Leu Glu
        435                 440                 445
Val Val Ala Gly Leu Arg His Gly His Leu Val Ile Leu Gly Ala Ser
    450                 455                 460
Ser Gly Ser Ser Ala Pro Lys Ser Phe Thr Val Ala Glu Leu Ala Ala
465                 470                 475                 480
Gly Gln Val Val Tyr Gln His Asp Asp Arg Asp Gly Ser Leu Ser Asp
                485                 490                 495
Asn Leu Val Leu Arg Met Val Asp Gly Gly Gly Arg His Gln Val Gln
            500                 505                 510
Phe Leu Phe Pro Ile Thr Leu Val Pro Val Asp Asp Gln Pro Pro Val
        515                 520                 525
Leu Asn Ala Asn Thr Gly Leu Thr Leu Ala Glu Gly Glu Thr Val Pro
    530                 535                 540
Ile Leu Pro Leu Ser Leu Ser Ala Thr Asp Met Asp Ser Asp Asp Ser
545                 550                 555                 560
Leu Leu Leu Phe Val Leu Glu Ser Pro Phe Leu Thr Thr Gly His Leu
                565                 570                 575
Leu Leu Arg Gln Thr His Pro Pro His Glu Lys Gln Glu Leu Leu Arg
            580                 585                 590
Gly Leu Trp Arg Lys Glu Gly Ala Phe Tyr Glu Arg Thr Val Thr Glu
        595                 600                 605
Trp Gln Gln Gln Asp Ile Thr Glu Gly Arg Leu Phe Tyr Arg His Ser
    610                 615                 620
Gly Pro His Ser Pro Gly Pro Val Thr Asp Gln Phe Thr Phe Arg Val
625                 630                 635                 640
Gln Asp Asn His Asp Pro Pro Asn Gln Ser Gly Leu Gln Arg Phe Val
                645                 650                 655
Ile Arg Ile His Pro Val Asp Arg Leu Pro Pro Glu Leu Gly Ser Gly
            660                 665                 670
Cys Pro Leu Arg Met Val Val Gln Glu Ser Gln Leu Thr Pro Leu Arg
        675                 680                 685
Lys Lys Trp Leu Arg Tyr Thr Asp Leu Asp Thr Asp Asp Arg Glu Leu
    690                 695                 700
Arg Tyr Thr Val Thr Gln Pro Pro Thr Asp Thr Asp Glu Asn His Leu
705                 710                 715                 720
Pro Ala Pro Leu Gly Thr Leu Val Leu Thr Asp Asn Pro Ser Val Val
```

725 730 735
Val Thr His Phe Thr Gln Ala Gln Ile Asn His His Lys Ile Ala Tyr
740 745 750
Arg Pro Pro Gly Gln Glu Leu Gly Val Ala Thr Arg Val Ala Gln Phe
755 760 765
Gln Phe Gln Val Glu Asp Arg Ala Gly Asn Val Ala Pro Gly Thr Phe
770 775 780
Thr Leu Tyr Leu His Pro Val Asp Asn Gln Pro Pro Glu Ile Leu Asn
785 790 795 800
Thr Gly Phe Thr Ile Gln Glu Lys Gly His His Ile Leu Ser Glu Thr
805 810 815
Glu Leu His Val Asn Asp Val Asp Thr Asp Val Ala His Ile Ser Phe
820 825 830
Thr Leu Thr Gln Ala Pro Lys His Gly His Met Arg Val Ser Gly Gln
835 840 845
Ile Leu His Val Gly Gly Leu Phe His Leu Glu Asp Ile Lys Gln Gly
850 855 860
Arg Val Ser Tyr Ala His Asn Gly Asp Lys Ser Leu Thr Asp Ser Cys
865 870 875 880
Ser Leu Glu Val Ser Asp Arg His His Val Val Pro Ile Thr Leu Arg
885 890 895
Val Asn Val Arg Pro Val Asp Asp Glu Val Pro Ile Leu Ser His Pro
900 905 910
Thr Gly Thr Leu Glu Ser Tyr Leu Asp Val Leu Glu Asn Gly Ala Thr
915 920 925
Glu Ile Thr Ala Asn Val Ile Lys Gly Thr Asn Glu Glu Thr Asp Asp
930 935 940
Leu Met Leu Thr Phe Leu Leu Glu Asp Pro Pro Leu Tyr Gly Glu Ile
945 950 955 960
Leu Val Asn Gly Ile Pro Ala Glu Gln Phe Thr Gln Arg Asp Ile Leu
965 970 975
Glu Gly Ser Val Val Tyr Thr His Thr Ser Gly Glu Ile Gly Leu Leu
980 985 990
Pro Lys Ala Asp Ser Phe Asn Leu Ser Leu Ser Asp Lys Ser Gln Glu
995 1000 1005
Trp Arg Ile Gly Gly Asn Thr Ile Gln Gly Val Thr Ile Trp Val Thr
1010 1015 1020
Ile Leu Pro Val Asp Ser Gln Ala Pro Glu Ile Ser Val Gly Glu Gln
1025 1030 1035 1040
Leu Ile Val Met Glu Gly Asp Lys Ser Val Ile Thr Ser Val His Ile
1045 1050 1055
Ser Ala Glu Asp Val Asp Ser Leu Asn Asp Asp Ile Leu Cys Thr Ile
1060 1065 1070
Val Ile Gln Pro Thr Ser Gly Tyr Val Glu Asn Ile Ser Pro Ala Pro
1075 1080 1085
Gly Ser Glu Lys Ser Arg Ala Gly Ile Ala Ile Ser Ala Phe Asn Leu
1090 1095 1100
Lys Asp Leu Arg Gln Gly His Ile Asn Tyr Val Gln Ser Val His Lys
1105 1110 1115 1120
Gly Val Glu Pro Val Glu Asp Arg Phe Val Phe Arg Cys Ser Asp Gly
1125 1130 1135
Ile Asn Phe Ser Glu Arg Gln Phe Phe Pro Ile Val Ile Ile Pro Thr
1140 1145 1150
Asn Asp Glu Gln Pro Glu Met Phe Met Arg Glu Phe Met Val Met Glu
1155 1160 1165
Gly Met Ser Leu Val Ile Asp Thr Pro Ile Leu Asn Ala Ala Asp Ala
1170 1175 1180
Asp Val Pro Leu Asp Asp Leu Thr Phe Thr Ile Thr Gln Phe Pro Thr
1185 1190 1195 1200

His Gly His Ile Met Asn Gln Leu Ile Asn Gly Thr Val Leu Val Glu
1205 1210 1215
Ser Phe Thr Leu Asp Gln Ile Ile Glu Ser Ser Ser Ile Ile Tyr Glu
1220 1225 1230
His Asp Asp Ser Glu Thr Gln Glu Asp Ser Phe Val Ile Lys Leu Thr
1235 1240 1245
Asp Gly Lys His Ser Val Glu Lys Thr Val Leu Ile Ile Val Ile Pro
1250 1255 1260
Val Asp Asp Glu Thr Pro Arg Met Thr Ile Asn Asn Gly Leu Glu Ile
1265 1270 1275 1280
Glu Ile Gly Asp Thr Lys Ile Ile Asn Asn Lys Ile Leu Met Ala Thr
1285 1290 1295
Asp Leu Asp Ser Glu Asp Lys Ser Leu Val Tyr Ile Ile Arg Tyr Gly
1300 1305 1310
Pro Gly His Gly Leu Leu Gln Arg Arg Lys Pro Thr Gly Ala Phe Glu
1315 1320 1325
Asn Ile Thr Leu Gly Met Asn Phe Thr Gln Asp Glu Val Asp Arg Asn
1330 1335 1340
Leu Ile Gln Tyr Val His Leu Gly Gln Glu Gly Ile Arg Asp Leu Ile
1345 1350 1355 1360
Lys Phe Asp Val Thr Asp Gly Ile Asn Pro Leu Ile Asp Arg Tyr Phe
1365 1370 1375
Tyr Val Ser Ile Gly Ser Ile Asp Ile Val Phe Pro Asp Val Ile Ser
1380 1385 1390
Lys Gly Val Ser Leu Lys Glu Gly Gly Lys Val Thr Leu Thr Thr Asp
1395 1400 1405
Leu Leu Ser Thr Ser Asp Leu Asn Ser Pro Asp Glu Asn Leu Val Phe
1410 1415 1420
Thr Ile Thr Arg Ala Pro Met Arg Gly His Leu Glu Cys Thr Asp Gln
1425 1430 1435 1440
Pro Gly Val Ser Ile Thr Ser Phe Thr Gln Leu Gln Leu Ala Gly Asn
1445 1450 1455
Lys Ile Tyr Tyr Ile His Thr Ala Asp Asp Glu Val Lys Met Asp Ser
1460 1465 1470
Phe Glu Phe Gln Val Thr Asp Gly Arg Asn Pro Val Phe Arg Thr Phe
1475 1480 1485
Arg Ile Ser Ile Ser Asp Val Asp Asn Lys Lys Pro Val Val Thr Ile
1490 1495 1500
His Lys Leu Val Val Ser Glu Ser Glu Asn Lys Leu Ile Thr Pro Phe
1505 1510 1515 1520
Glu Leu Thr Val Glu Asp Arg Asp Thr Pro Asp Lys Leu Leu Lys Phe
1525 1530 1535
Thr Ile Thr Gln Val Pro Ile His Gly His Leu Leu Phe Asn Asn Thr
1540 1545 1550
Arg Pro Val Met Val Phe Thr Lys Gln Asp Leu Asn Glu Asn Leu Ile
1555 1560 1565
Ser Tyr Lys His Asp Gly Thr Glu Ser Ser Glu Asp Ser Phe Ser Phe
1570 1575 1580
Thr Val Thr Asp Gly Thr His Thr Asp Phe Tyr Val Phe Pro Asp Thr
1585 1590 1595 1600
Val Phe Glu Thr Arg Arg Pro Gln Val Met Lys Ile Gln Val Leu Ala
1605 1610 1615
Val Asp Asn Ser Val Pro Gln Ile Ala Val Asn Lys Gly Ala Ser Thr
1620 1625 1630
Leu Arg Thr Leu Ala Thr Gly His Leu Gly Phe Met Ile Thr Ser Lys
1635 1640 1645
Ile Leu Lys Val Glu Asp Arg Asp Ser Leu His Ile Ser Leu Arg Phe
1650 1655 1660
Ile Val Thr Glu Ala Pro Gln His Gly Tyr Leu Leu Asn Leu Asp Lys

1665 1670 1675 1680
Gly Asn His Ser Ile Thr Gln Phe Thr Gln Ala Asp Ile Asp Asp Met
1685 1690 1695
Lys Ile Cys Tyr Val Leu Arg Glu Gly Ala Asn Ala Thr Ser Asp Met
1700 1705 1710
Phe Tyr Phe Ala Val Glu Asp Gly Gly Gly Asn Lys Leu Thr Tyr Gln
1715 1720 1725
Asn Phe Arg Leu Asn Trp Ala Trp Ile Ser Phe Glu Lys Glu Tyr Tyr
1730 1735 1740
Leu Val Asn Glu Asp Ser Lys Phe Leu Asp Val Val Leu Lys Arg Arg
1745 1750 1755 1760
Gly Tyr Leu Gly Glu Thr Ser Phe Ile Ser Ile Gly Thr Arg Asp Arg
1765 1770 1775
Thr Ala Glu Lys Asp Lys Asp Phe Lys Gly Lys Ala Gln Lys Gln Val
1780 1785 1790
Gln Phe Asn Pro Gly Gln Thr Arg Ala Thr Trp Arg Val Arg Ile Leu
1795 1800 1805
Ser Asp Gly Glu His Glu Gln Ser Glu Thr Phe Gln Val Val Leu Ser
1810 1815 1820
Glu Pro Val Leu Ala Ala Leu Glu Phe Pro Thr Val Ala Thr Val Glu
1825 1830 1835 1840
Ile Val Asp Pro Gly Asp Glu Pro Thr Val Phe Ile Pro Gln Ser Lys
1845 1850 1855
Tyr Ser Val Glu Glu Asp Val Gly Glu Leu Phe Ile Pro Ile Arg Arg
1860 1865 1870
Ser Gly Asp Val Ser Gln Glu Leu Met Val Val Cys Tyr Thr Gln Gln
1875 1880 1885
Gly Thr Ala Thr Gly Thr Val Pro Thr Ser Val Leu Ser Tyr Ser Asp
1890 1895 1900
Tyr Ile Ser Arg Pro Glu Asp His Thr Ser Val Val Arg Phe Asp Lys
1905 1910 1915 1920
Asp Glu Arg Glu Lys Leu Cys Arg Ile Val Ile Ile Asp Asp Ser Leu
1925 1930 1935
Tyr Glu Glu Glu Glu Thr Phe His Val Leu Leu Ser Met Pro Met Gly
1940 1945 1950
Gly Arg Ile Gly Ser Glu Phe Pro Gly Ala Gln Val Thr Ile Val Pro
1955 1960 1965
Asp Lys Asp Asp Gly Pro Ser Asp Ser Lys Phe Asn Val Ala Glu Asn
1970 1975 1980
Tyr Ser Leu Leu Pro Phe Thr Cys Phe Gln Gly Ser Ile Ala Thr Ala
1985 1990 1995 2000
Glu Ala Ala Thr Gln Gly Gly Gly Arg Ser Thr Arg Gln Val Ala Ala
2005 2010 2015
Val Lys Lys Asp Lys Asp Phe Lys Gly Lys Ala Gln Lys Gln Val Gln
2020 2025 2030
Phe Asn Pro Gly Gln Thr Arg Ala Thr Trp Arg Val Arg Ile Leu Ser
2035 2040 2045
Asp Gly Glu His Glu Gln Ser Glu Thr Phe Gln Val Val Leu Ser Glu
2050 2055 2060
Pro Val Leu Ala Ala Leu Glu Phe Pro Thr Val Ala Thr Val Glu Ile
2065 2070 2075 2080
Val Asp Pro Gly Asp Ala Cys Pro Trp Gly Glu Glu Ser Asp Gln Ser
2085 2090 2095
Ser Gln Gly Leu Lys Leu Gln Ser Phe Leu Thr Lys Met Met Val Ser
2100 2105 2110
Thr Asn Leu Leu Glu Asn Ser Phe Ser Arg Glu Asp Gln His Gln Glu
2115 2120 2125
Gln Leu Ser Arg Gln Lys Lys Trp Glu Ser Lys Thr Met Ile Ile Tyr
2130 2135 2140

Thr Phe Ile Leu Cys Glu Thr Glu Lys Pro Cys Ile Leu Glu Leu Met
2145 2150 2155 2160
Asp Asp Val Leu Tyr Glu Glu Val Glu Glu Leu Arg Leu Val Leu Gly
2165 2170 2175
Thr Pro Gln Ser Asn Ser Pro Phe Gly Ala Ala Val Gly Glu Gln Asn
2180 2185 2190
Glu Thr Leu Ile Arg Ile Arg Asp Asp Ala Asp Lys Thr Val Ile Lys
2195 2200 2205
Phe Gly Glu Thr Lys Phe Ser Val Thr Glu Pro Lys Glu Pro Gly Glu
2210 2215 2220
Ser Val Val Ile Arg Ile Pro Val Ile Arg Gln Gly Asp Thr Ser Lys
2225 2230 2235 2240
Val Ser Ile Val Arg Val His Thr Lys Asp Gly Ser Ala Thr Ser Gly
2245 2250 2255
Glu Asp Tyr His Pro Val Ser Glu Glu Ile Glu Phe Lys Glu Gly Glu
2260 2265 2270
Thr Gln His Val Val Glu Ile Glu Val Thr Phe Asp Gly Val Arg Glu
2275 2280 2285
Met Arg Glu Ala Phe Thr Val His Leu Lys Pro Asp Glu Asn Met Ile
2290 2295 2300
Ala Glu Met Gln Leu Ser Asn Phe Glu Leu Thr Leu Ser Pro Asp Gly
2305 2310 2315 2320
Thr Arg Val Gly Asn His Lys Cys Ser Asn Leu Leu Asp Tyr Thr Glu
2325 2330 2335
Val Lys Thr His Tyr Gly Phe Leu Thr Asp Ala Thr Lys Asn Pro Glu
2340 2345 2350
Ile Ile Gly Glu Thr Tyr Pro Tyr Gln Tyr Ser Leu Ser Ile Arg Gly
2355 2360 2365
Ser Thr Thr Leu Arg Phe Tyr Arg Asn Leu Asn Leu Glu Ala Cys Leu
2370 2375 2380
Trp Glu Phe Val Ser Tyr Tyr Asp Met Ser Glu Leu Leu Ala Asp Cys
2385 2390 2395 2400
Arg Ser Val Leu Asn Ala Ser Ile Phe His Glu Met Ala Pro Glu Gly
2405 2410 2415
Lys Gln Ser Lys Cys Leu Val Asn Ser Thr Leu Tyr Ser Ile Leu Glu
2420 2425 2430
Cys His Glu Ser Leu Pro Asn Phe Cys Ile Ser Ala Leu Arg Met Gly
2435 2440 2445
Lys Trp Arg Lys Ile Lys Ser Lys Pro Ser Ala Gln Thr Pro Cys Ala
2450 2455 2460
Gln Arg Leu Arg Gly Phe Ile Asp His Pro Arg Lys Gln Pro Leu Gln
2465 2470 2475 2480
Gln Ala Ser Ala Asp Pro Gly Met Leu Pro Val Ile Ser Thr Arg Glu
2485 2490 2495
Leu Ser Asn Phe Glu Leu Thr Leu Ser Pro Asp Gly Thr Arg Val Gly
2500 2505 2510
Asn His Lys Cys Ser Asn Leu Leu Asp Tyr Thr Glu Val Lys Thr His
2515 2520 2525
Tyr Gly Phe Leu Thr Asp Ala Thr Lys Asn Pro Glu Ile Ile Gly Glu
2530 2535 2540
Thr Tyr Pro Tyr Gln Tyr Ser Leu Ser Ile Arg Gly Ser Thr Thr Leu
2545 2550 2555 2560
Arg Phe Tyr Arg Asn Leu Asn Leu Glu Ala Cys Leu Trp Glu Phe Val
2565 2570 2575
Ser Tyr Tyr Asp Met Ser Glu Leu Leu Ala Asp Cys Gly Gly Thr Ile
2580 2585 2590
Gly Thr Asp Gly Gln Val Leu Asn Leu Val Gln Ser Tyr Val Thr Leu
2595 2600 2605
Arg Val Pro Leu Tyr Val Ser Tyr Val Phe His Ser Pro Val Gly Val

2610 2615 2620
Gly Gly Trp Gln His Phe Asp Leu Lys Ser Glu Leu Arg Leu Thr Phe
2625 2630 2635 2640
Val Tyr Asp Thr Ala Ile Leu Trp Asn Asp Gly Ile Gly Ser Pro Pro
2645 2650 2655
Glu Ala Glu Leu Gln Gly Ser Leu Tyr Pro Thr Ser Met Arg Ile Gly
2660 2665 2670
Asp Glu Gly Arg Leu Ala Val His Phe Lys Thr Glu Ala Gln Phe His
2675 2680 2685
Gly Leu Phe Val Leu Ser His Pro Ala Ser Phe Thr Ser Ser Val Ile
2690 2695 2700
Met Ser Ala Asp His Pro Gly Leu Thr Phe Ser Leu Arg Leu Ile Arg
2705 2710 2715 2720
Ser Glu Pro Thr Tyr Asn Gln Pro Val Gln Gln Trp Ser Phe Val Ser
2725 2730 2735
Asp Phe Ala Val Arg Asp Tyr Ser Gly Thr Tyr Thr Val Lys Leu Val
2740 2745 2750
Pro Cys Thr Ala Pro Ser His Gln Glu Tyr Arg Leu Pro Val Thr Cys
2755 2760 2765
Asn Pro Arg Glu Pro Val Thr Phe Asp Leu Asp Ile Arg Phe Gln Gln
2770 2775 2780
Val Ser Asp Pro Val Ala Ala Glu Phe Ser Leu Asn Thr Gln Met Tyr
2785 2790 2795 2800
Leu Leu Ser Lys Lys Ser Leu Trp Leu Ser Asp Gly Ser Met Gly Phe
2805 2810 2815
Gly Gln Glu Ser Asp Val Ala Phe Ala Glu Gly Asp Ile Ile Tyr Gly
2820 2825 2830
Arg Val Met Val Asp Pro Val Gln Asn Leu Gly Asp Ser Phe Tyr Cys
2835 2840 2845
Ser Ile Glu Lys Val Phe Leu Cys Thr Gly Ala Asp Gly Tyr Val Pro
2850 2855 2860
Lys Tyr Ser Pro Met Asn Ala Glu Tyr Gly Cys Leu Ala Asp Ser Pro
2865 2870 2875 2880
Ser Leu Leu Tyr Arg Phe Lys Ile Val Asp Lys Ala Gln Pro Glu Thr
2885 2890 2895
Gln Ala Thr Ser Phe Gly Asn Val Leu Phe Asn Ala Lys Leu Ala Val
2900 2905 2910
Asp Asp Pro Glu Ala Ile Leu Leu Val Asn Gln Pro Gly Ser Asp Gly
2915 2920 2925
Phe Lys Val Asp Ser Thr Pro Leu Phe Gln Val Ala Leu Gly Arg Glu
2930 2935 2940
Trp Tyr Ile His Thr Ile Tyr Thr Val Arg Ser Lys Asp Asn Ala Asn
2945 2950 2955 2960
Arg Gly Ile Gly Lys Arg Ser Val Glu Tyr His Ser Leu Val Ser Gln
2965 2970 2975
Gly Lys Pro Gln Ser Thr Thr Lys Ser Arg Lys Lys Arg Glu Ile Arg
2980 2985 2990
Ser Thr Pro Ser Leu Ala Trp Glu Ile Gly Ala Glu Asn Ser Arg Gly
2995 3000 3005
Thr Asn Ile Gln His Ile Ala Leu Asp Arg Thr Lys Arg Gln Ile Pro
3010 3015 3020
His Gly Arg Ala Pro Pro Asp Gly Ile Leu Pro Trp Glu Leu Asn Ser
3025 3030 3035 3040
Pro Ser Ser Ala Val Ser Leu Val Thr Val Val Gly Gly Thr Thr Val
3045 3050 3055
Gly Leu Leu Thr Ile Cys Leu Thr Val Ile Ala Val Leu Met Cys Arg
3060 3065 3070
Gly Lys Glu Ser Phe Arg Gly Lys Asp Ala Pro Lys Gly Ser Ser Ser
3075 3080 3085

```
Ser Glu Pro Met Val Pro Pro Gln Ser His His Asn Asp Ser Ser Glu
  3090                3095                3100
Val
3105


<210> 81
<211> 457
<212> PRT
<213> homo sapiens

<400> 81
Met Gly Cys Ser Gly Ala Trp Gly Leu Ser Cys Pro Cys Pro Gln Thr
 1               5                  10                  15
Pro Ser Trp Ala Trp Arg Lys Met Arg Thr Pro Ser Met Arg Asn Arg
            20                  25                  30
Ser Gly Ala Val Trp Ser Arg Ala Ser Val Pro Phe Ser Ala Trp Glu
        35                  40                  45
Val Glu Val Gln Met Arg Val Thr Gly Leu Gly Arg Arg Gly Ala Gln
    50                  55                  60
Gly Met Ala Val Trp Tyr Thr Arg Gly Arg Gly His Val Gly Ser Val
65                  70                  75                  80
Leu Gly Gly Leu Ala Ser Trp Asp Gly Ile Gly Ile Phe Phe Asp Ser
                85                  90                  95
Pro Ala Glu Asp Thr Gln Asp Ser Pro Ala Ile Arg Val Leu Ala Ser
            100                 105                 110
Asp Gly His Ile Pro Ser Glu Gln Pro Gly Asp Gly Ala Ser Gln Gly
        115                 120                 125
Leu Gly Ser Cys His Trp Asp Phe Arg Asn Arg Pro His Pro Phe Arg
    130                 135                 140
Ala Arg Ile Thr Tyr Trp Gly Gln Arg Leu Arg Met Ser Leu Asn Ser
145                 150                 155                 160
Gly Leu Thr Pro Ser Asp Pro Gly Glu Phe Cys Val Asp Val Gly Pro
                165                 170                 175
Leu Leu Leu Val Pro Gly Gly Phe Phe Gly Val Ser Ala Ala Thr Gly
            180                 185                 190
Thr Leu Ala Asp Asp His Asp Val Leu Ser Phe Leu Thr Phe Ser Leu
        195                 200                 205
Ser Glu Pro Ser Pro Glu Val Pro Pro Gln Pro Phe Leu Glu Met Gln
    210                 215                 220
His Val Arg Leu Ala Arg Gln Leu Glu Gly Leu Trp Ala Arg Leu Gly
225                 230                 235                 240
Leu Gly Thr Arg Glu Asp Val Thr Pro Lys Ser Asp Ser Glu Ala Gln
                245                 250                 255
Gly Glu Gly Glu Arg Leu Phe Asp Leu Glu Glu Thr Leu Gly Arg His
            260                 265                 270
Arg Arg Ile Leu Gln Ala Leu Arg Gly Leu Ser Lys Gln Leu Ala Gln
        275                 280                 285
Ala Glu Arg Gln Trp Lys Lys Gln Leu Gly Pro Gln Ala Lys Pro Gly
    290                 295                 300
Leu Thr Glu Ala Gly Asp Ala Ala Val Arg Met Ala Ala Glu Ala Gln
305                 310                 315                 320
Val Ser Tyr Leu Pro Val Gly Ile Glu His His Phe Leu Glu Leu Asp
                325                 330                 335
His Ile Leu Gly Leu Leu Gln Glu Glu Leu Arg Gly Pro Ala Lys Ala
            340                 345                 350
Ala Ala Lys Ala Pro Arg Pro Pro Gly Gln Pro Pro Arg Ala Ser Ser
        355                 360                 365
Cys Leu Gln Pro Gly Ile Phe Leu Phe Tyr Leu Leu Ile Gln Thr Val
```

```
    370                 375                 380
Gly Phe Phe Gly Tyr Val His Phe Arg Arg Pro Val Pro Arg Pro Ala
385                 390                 395                 400
Lys Thr Met Ala Phe Met Val Lys Thr Met Val Gly Gly Gln Leu Lys
                405                 410                 415
Asn Leu Thr Gly Ser Leu Gly Gly Gly Glu Asp Lys Gly Asp Gly Asp
            420                 425                 430
Lys Ser Ala Ala Glu Ala Gln Gly Met Ser Arg Glu Glu Tyr Glu Glu
        435                 440                 445
Tyr Gln Lys Gln Leu Val Glu Glu Lys
    450                 455
```

<210> 82
<211> 526
<212> PRT
<213> homo sapiens

<400> 82

```
Met Pro Ala Val Ser Gly Pro Gly Pro Leu Phe Cys Leu Leu Leu Leu
 1               5                  10                  15
Leu Leu Asp Pro His Ser Pro Glu Thr Gly Cys Pro Pro Leu Arg Arg
            20                  25                  30
Phe Glu Tyr Lys Leu Ser Phe Lys Gly Pro Arg Leu Ala Leu Pro Gly
        35                  40                  45
Ala Gly Ile Pro Phe Trp Ser His His Gly Asp Ala Ile Leu Gly Leu
    50                  55                  60
Glu Glu Val Arg Leu Thr Pro Ser Met Arg Asn Arg Ser Gly Ala Val
65                  70                  75                  80
Trp Ser Arg Ala Ser Val Pro Phe Ser Ala Trp Glu Val Glu Val Gln
                85                  90                  95
Met Arg Val Thr Gly Leu Gly Arg Arg Gly Ala Gln Gly Met Ala Val
            100                 105                 110
Trp Tyr Thr Arg Gly Arg Gly His Val Gly Ser Val Leu Gly Gly Leu
        115                 120                 125
Ala Ser Trp Asp Gly Ile Gly Ile Phe Phe Asp Ser Pro Ala Glu Asp
    130                 135                 140
Thr Gln Asp Ser Pro Ala Ile Arg Val Leu Ala Ser Asp Gly His Ile
145                 150                 155                 160
Pro Ser Glu Gln Pro Gly Asp Gly Ala Ser Gln Gly Leu Gly Ser Cys
                165                 170                 175
His Trp Asp Phe Arg Asn Arg Pro His Pro Phe Arg Ala Arg Ile Thr
            180                 185                 190
Tyr Trp Gly Gln Arg Leu Arg Met Ser Leu Asn Ser Gly Leu Thr Pro
        195                 200                 205
Ser Asp Pro Gly Glu Phe Cys Val Asp Val Gly Pro Leu Leu Leu Val
    210                 215                 220
Pro Gly Gly Phe Phe Gly Val Ser Ala Ala Thr Gly Thr Leu Ala Asp
225                 230                 235                 240
Asp His Asp Val Leu Ser Phe Leu Thr Phe Ser Leu Ser Glu Pro Ser
                245                 250                 255
Pro Glu Val Pro Pro Gln Pro Phe Leu Glu Met Gln His Val Arg Leu
            260                 265                 270
Ala Arg Gln Leu Glu Gly Leu Trp Ala Arg Leu Gly Leu Gly Thr Arg
        275                 280                 285
Glu Asp Val Thr Pro Lys Ser Asp Ser Glu Ala Gln Gly Glu Gly Glu
    290                 295                 300
Arg Leu Phe Asp Leu Glu Glu Thr Leu Gly Arg His Arg Arg Ile Leu
305                 310                 315                 320
```

```
Gln Ala Leu Arg Gly Leu Ser Lys Gln Leu Ala Gln Ala Glu Arg Gln
                325                 330                 335
Trp Lys Lys Gln Leu Gly Pro Pro Gly Gln Ala Arg Pro Asp Gly Gly
            340                 345                 350
Trp Ala Leu Asp Ala Ser Cys Gln Ile Pro Ser Thr Pro Gly Arg Gly
        355                 360                 365
Gly His Leu Ser Met Ser Leu Asn Lys Asp Ser Ala Lys Val Gly Ala
    370                 375                 380
Leu Leu His Gly Gln Trp Thr Leu Leu Gln Ala Leu Gln Glu Met Arg
385                 390                 395                 400
Asp Ala Ala Val Arg Met Ala Ala Glu Ala Gln Val Ser Tyr Leu Pro
                405                 410                 415
Val Gly Ile Glu His His Phe Leu Glu Leu Asp His Ile Leu Gly Leu
            420                 425                 430
Leu Gln Glu Glu Leu Arg Gly Pro Ala Lys Ala Ala Ala Lys Ala Pro
        435                 440                 445
Arg Pro Pro Gly Gln Pro Pro Arg Ala Ser Ser Cys Leu Gln Pro Gly
    450                 455                 460
Ile Phe Leu Phe Tyr Leu Leu Ile Gln Thr Val Gly Phe Phe Gly Tyr
465                 470                 475                 480
Val His Phe Arg Gln Glu Leu Asn Lys Ser Leu Gln Glu Cys Leu Ser
                485                 490                 495
Thr Gly Ser Leu Pro Leu Gly Pro Ala Pro His Thr Pro Arg Ala Leu
            500                 505                 510
Gly Ile Leu Arg Arg Gln Pro Leu Pro Ala Ser Met Pro Ala
        515                 520                 525
```

<210> 83
<211> 904
<212> PRT
<213> homo sapiens

<400> 83

```
Met Leu Leu Ala Leu Cys Ser Ser Leu Ala Leu Ile Phe Ala Ala Pro
 1               5                  10                  15
Val Ser Gly Gln Leu Glu His Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
            20                  25                  30
Asn Gly Phe Gly Pro Gln His Ser Glu Val Val Ser Leu Ser Val Thr
        35                  40                  45
Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala Glu Ala Leu
    50                  55                  60
Thr Phe Glu Gly Ala Thr Val Thr Leu His Ser Ser Leu Ile Leu Gln
65                  70                  75                  80
Ala Pro Leu Ser Val Phe Glu Gly Asp Phe Val Val Leu Arg Cys Arg
                85                  90                  95
Ala Lys Ala Glu Val Thr Leu Asn Thr Met Tyr Lys Asn Gly Asn Val
            100                 105                 110
Leu Thr Phe Leu Asn Lys Ser Ser Asp Phe His Ile His His Ala Ser
        115                 120                 125
Leu Lys Asp Asn Gly Ala Tyr His Phe Thr Gly Phe Asn Gly Ser Asn
    130                 135                 140
Phe Ser Val Ser Ser Asn Ile Val Lys Ile Gln Val Gln Glu His Leu
145                 150                 155                 160
Leu Pro Gln Trp Phe Leu Lys Ala Pro Asp Pro Thr Val Ala Leu Ser
                165                 170                 175
Glu Ile Phe Ser Val Asn Arg Gly Pro Leu Leu Thr Gly Thr Gly Ser
            180                 185                 190
Arg Val Met Thr Pro Trp Ile Tyr Phe Pro Thr Glu Asp Trp Asn Phe
```

```
        195                 200                 205
Thr Leu Ile Pro Ile Thr Val Asp Asp Ala Cys Lys Arg Pro Cys Ala
    210                 215                 220
Pro Arg Ala Pro Trp Glu Val Gly Ser Leu Thr Pro Gly Lys Ser Phe
225                 230                 235                 240
Gln Gln Lys Gly Asn Pro Asp Leu Leu Met Gly Pro Phe Asp Val Leu
                245                 250                 255
His Leu Ser Leu Ile Thr Leu Phe Cys Asn Met Ala Gly Ser Leu Phe
            260                 265                 270
Tyr Tyr Met Glu Leu Gly Glu Lys Lys Asp Ala Leu Phe Val Thr Gly
        275                 280                 285
Asn Glu Ser Arg Ser Tyr His Trp Phe Gln Lys Phe Ser Leu Ala Gly
    290                 295                 300
Gly Gln Glu Ala Asp Gln Lys Leu Trp Phe Pro Pro Gly Leu Met Ser
305                 310                 315                 320
Gln Asp Ile Phe Ile Tyr Ile Arg Gln Gly Glu Ser Cys Leu Val Ile
                325                 330                 335
Glu Met Phe His Gln Val Tyr Arg Arg Pro Ala Gly Gly Val Pro Val
            340                 345                 350
Glu His Met Ser Val Trp Ala Leu Arg Val Asn Ser Ser Gly Leu Phe
        355                 360                 365
Ala Tyr Ala Asp Gly Trp Leu Phe Thr Leu Phe Gln Leu Gln Ser Val
    370                 375                 380
Asp Asn Leu Ser Pro Ser Thr Gln Ser Gln Thr His Glu Gly His Glu
385                 390                 395                 400
Lys Leu Cys Pro Phe Leu Ala Ile Gly Pro Pro Ala His Ser Arg Gly
                405                 410                 415
Ser Phe Leu Arg Ala Lys Lys Ser Leu Val Ala Tyr Ile Lys Gly Asn
            420                 425                 430
Gln Leu Ser Phe Pro Pro Val Glu Asp Leu Leu Pro Lys Ser Gln Trp
        435                 440                 445
Pro Cys Ile Gln Val Leu Pro Arg Asn Ile Ala Ala Ala Ala His Lys
    450                 455                 460
Pro Val Ile Ser Val His Pro Pro Trp Thr Thr Phe Phe Lys Gly Glu
465                 470                 475                 480
Arg Val Thr Leu Thr Cys Asn Gly Phe Gln Phe Tyr Ala Thr Glu Lys
                485                 490                 495
Thr Thr Trp Tyr His Arg His Tyr Trp Gly Glu Lys Leu Thr Leu Thr
            500                 505                 510
Pro Gly Asn Thr Leu Glu Val Arg Glu Ser Gly Leu Tyr Arg Cys Gln
        515                 520                 525
Ala Arg Gly Ser Pro Arg Ser Asn Pro Val Arg Leu Leu Phe Ser Ser
    530                 535                 540
Gly Glu Lys Glu Asp Cys Val Ser Asp Lys Asn Pro Ala Thr Asn His
545                 550                 555                 560
Thr Pro Met Ser Arg Lys Arg Ser Ser Cys Ser Ser Leu Ser Ala Thr
                565                 570                 575
Ser Phe Ile Ala Pro Ala Leu Arg Leu Asp Ser Leu Ile Leu Gln Ala
            580                 585                 590
Pro Tyr Ser Val Phe Glu Gly Asp Thr Leu Val Leu Arg Cys His Arg
        595                 600                 605
Arg Arg Lys Glu Lys Leu Thr Ala Val Lys Tyr Thr Trp Asn Gly Asn
    610                 615                 620
Ile Leu Ser Ile Ser Asn Lys Ser Trp Asp Leu Leu Ile Pro Gln Ala
625                 630                 635                 640
Ser Ser Asn Asn Asn Gly Asn Tyr Arg Cys Ile Gly Tyr Gly Asp Glu
                645                 650                 655
Asn Asp Val Phe Arg Ser Asn Phe Lys Ile Ile Lys Ile Gln Gly Ile
            660                 665                 670
```

```
Pro Val Ser Gly Val Leu Leu Glu Thr Gln Pro Ser Gly Gly Gln Ala
        675                 680                 685
Val Glu Gly Glu Met Leu Val Leu Val Cys Ser Val Ala Glu Gly Thr
    690                 695                 700
Gly Asp Thr Thr Phe Ser Trp His Arg Glu Asp Met Gln Glu Ser Leu
705                 710                 715                 720
Gly Arg Lys Thr Gln Arg Ser Leu Arg Ala Glu Leu Glu Leu Pro Ala
                725                 730                 735
Ile Arg Gln Ser His Ala Gly Gly Tyr Tyr Cys Thr Ala Asp Asn Ser
            740                 745                 750
Tyr Gly Pro Val Gln Ser Met Val Leu Asn Val Thr Val Arg Glu Thr
        755                 760                 765
Pro Gly Asn Arg Asp Gly Leu Val Ala Ala Gly Ala Thr Gly Gly Leu
    770                 775                 780
Leu Ser Ala Leu Leu Leu Ala Val Ala Leu Leu Phe His Cys Trp Arg
785                 790                 795                 800
Arg Arg Lys Ser Val His Pro Lys Lys Gly Asp Leu Val Tyr Ser Glu
                805                 810                 815
Ile Gln Thr Thr Gln Leu Gly Glu Glu Glu Glu Gly Asn His Gly Asn
            820                 825                 830
Lys Asn Gln Glu Leu Glu Leu Val Asn Val Gly Glu Ser Phe Ser His
        835                 840                 845
Arg Ala Cys Ile Trp Ser Thr Leu Met Gly Thr Cys Gln Thr Ile Gly
    850                 855                 860
Gly Ala Asn Thr Ser Arg Thr Leu Leu Glu Asp Lys Asp Val Ser Val
865                 870                 875                 880
Val Tyr Ser Glu Val Lys Thr Gln His Pro Asp Asn Ser Ala Gly Lys
                885                 890                 895
Ile Ser Ser Lys Asp Glu Glu Ser
            900
```

<210> 84
<211> 515
<212> PRT
<213> homo sapiens

<400> 84

```
Met Leu Leu Trp Ala Ser Leu Leu Ala Phe Ala Pro Val Cys Gly Gln
 1                  5                  10                  15
Ser Ala Ala Ala His Lys Pro Val Ile Ser Val His Pro Pro Trp Thr
            20                  25                  30
Thr Phe Phe Lys Gly Glu Arg Val Thr Leu Thr Cys Asn Gly Phe Gln
        35                  40                  45
Phe Tyr Ala Thr Glu Lys Thr Thr Trp Tyr His Arg His Tyr Trp Gly
    50                  55                  60
Glu Lys Leu Thr Leu Thr Pro Gly Asn Thr Leu Glu Val Arg Glu Ser
65                  70                  75                  80
Gly Leu Tyr Arg Cys Gln Ala Arg Gly Ser Pro Arg Ser Asn Pro Val
                85                  90                  95
Arg Leu Leu Phe Ser Ser Asp Ser Leu Ile Leu Gln Ala Pro Tyr Ser
            100                 105                 110
Val Phe Glu Gly Asp Thr Leu Val Leu Arg Cys His Arg Arg Arg Lys
        115                 120                 125
Glu Lys Leu Thr Ala Val Lys Tyr Thr Trp Asn Gly Asn Ile Leu Ser
    130                 135                 140
Ile Ser Asn Lys Ser Trp Asp Leu Leu Ile Pro Gln Ala Ser Ser Asn
145                 150                 155                 160
Asn Asn Gly Asn Tyr Arg Cys Ile Gly Tyr Gly Asp Glu Asn Asp Val
```

```
                165                 170                 175
Phe Arg Ser Asn Phe Lys Ile Ile Lys Ile Gln Glu Leu Phe Pro His
            180                 185                 190
Pro Glu Leu Lys Ala Thr Asp Ser Gln Pro Thr Glu Gly Asn Ser Val
        195                 200                 205
Asn Leu Ser Cys Glu Thr Gln Leu Pro Pro Glu Arg Ser Asp Thr Pro
    210                 215                 220
Leu His Phe Asn Phe Phe Arg Asp Gly Glu Val Ile Leu Ser Asp Trp
225                 230                 235                 240
Ser Thr Tyr Pro Glu Leu Gln Leu Pro Thr Val Trp Arg Glu Asn Ser
                245                 250                 255
Gly Ser Tyr Trp Cys Gly Ala Glu Thr Val Arg Gly Asn Ile His Lys
            260                 265                 270
His Ser Pro Ser Leu Gln Ile His Val Gln Arg Ile Pro Val Ser Gly
        275                 280                 285
Val Leu Leu Glu Thr Gln Pro Ser Gly Gly Gln Ala Val Glu Gly Glu
    290                 295                 300
Met Leu Val Leu Val Cys Ser Val Ala Glu Gly Thr Gly Asp Thr Thr
305                 310                 315                 320
Phe Ser Trp His Arg Glu Asp Met Gln Glu Ser Leu Gly Arg Lys Thr
                325                 330                 335
Gln Arg Ser Leu Arg Ala Glu Leu Glu Leu Pro Ala Ile Arg Gln Ser
            340                 345                 350
His Ala Gly Gly Tyr Tyr Cys Thr Ala Asp Asn Ser Tyr Gly Pro Val
        355                 360                 365
Gln Ser Met Val Leu Asn Val Thr Val Arg Glu Thr Pro Gly Asn Arg
    370                 375                 380
Asp Gly Leu Val Ala Ala Gly Ala Thr Gly Gly Leu Leu Ser Ala Leu
385                 390                 395                 400
Leu Leu Ala Val Ala Leu Leu Phe His Cys Trp Arg Arg Arg Lys Ser
                405                 410                 415
Gly Val Gly Phe Leu Gly Asp Glu Thr Arg Leu Pro Pro Ala Pro Gly
            420                 425                 430
Pro Gly Glu Ser Ser His Ser Ile Cys Pro Ala Gln Val Glu Leu Gln
        435                 440                 445
Ser Leu Tyr Val Asp Val His Pro Lys Lys Gly Asp Leu Val Tyr Ser
    450                 455                 460
Glu Ile Gln Thr Thr Gln Leu Gly Glu Glu Glu Glu Ala Asn Thr Ser
465                 470                 475                 480
Arg Thr Leu Leu Glu Asp Lys Asp Val Ser Val Val Tyr Ser Glu Val
                485                 490                 495
Lys Thr Gln His Pro Asp Asn Ser Ala Gly Lys Ile Ser Ser Lys Asp
            500                 505                 510
Glu Glu Ser
        515
```

<210> 85
<211> 831
<212> PRT
<213> homo sapiens

<400> 85

```
Asx Met Ala Val Gly Gly Gly His Lys Gly Val Arg Cys Pro Pro Ser
 1               5                  10                  15
Ala Arg Ser Ser Gln Val Pro Thr Cys Cys Ala Gly Trp Arg Gln Gln
            20                  25                  30
Gly Asp Glu Cys Gly Ile Ala Val Cys Glu Gly Asn Ser Thr Cys Ser
        35                  40                  45
```

```
Glu Asn Glu Val Cys Val Arg Pro Gly Glu Cys Arg Cys Arg His Gly
    50                  55                  60
Tyr Phe Gly Ala Asn Cys Asp Thr Lys Cys Pro Arg Gln Phe Trp Gly
65                  70                  75                  80
Pro Asp Cys Lys Glu Leu Cys Ser Cys His Pro His Gly Gln Cys Glu
                85                  90                  95
Asp Val Thr Gly Gln Cys Thr Cys His Ala Arg Arg Trp Gly Ala Arg
            100                 105                 110
Cys Glu His Ala Cys Gln Cys Gln His Gly Thr Cys His Pro Arg Ser
        115                 120                 125
Gly Ala Cys Arg Cys Glu Ser Gly Trp Trp Gly Ala Gln Cys Ala Ser
    130                 135                 140
Ala Cys Tyr Cys Ser Ala Thr Ser Arg Cys Asp Pro Gln Thr Gly Ala
145                 150                 155                 160
Cys Leu Cys His Ala Gly Trp Trp Gly Arg Ser Cys Asn Asn Gln Cys
                165                 170                 175
Ala Cys Asn Ser Ser Pro Cys Glu Gln Gln Ser Gly Arg Cys Gln Cys
            180                 185                 190
Arg Glu Arg Thr Phe Gly Ala Arg Cys Asp Arg Tyr Cys Gln Cys Phe
        195                 200                 205
Arg Gly Arg Cys His Pro Val Asp Gly Thr Cys Ala Cys Glu Pro Gly
    210                 215                 220
Tyr Arg Gly Lys Tyr Cys Arg Glu Pro Cys Pro Ala Gly Phe Tyr Gly
225                 230                 235                 240
Leu Gly Cys Arg Arg Arg Cys Gly Gln Cys Lys Gly Gln Gln Pro Cys
                245                 250                 255
Thr Val Ala Glu Gly Arg Cys Leu Thr Cys Glu Pro Gly Trp Asn Gly
            260                 265                 270
Thr Lys Cys Asp Gln Pro Cys Ala Thr Gly Phe Tyr Gly Glu Gly Cys
        275                 280                 285
Ser His Arg Cys Pro Pro Cys Arg Asp Gly His Ala Cys Asn His Val
    290                 295                 300
Thr Gly Lys Cys Thr Arg Cys Asn Ala Gly Trp Ile Gly Asp Arg Cys
305                 310                 315                 320
Glu Thr Lys Cys Ser Asn Gly Thr Tyr Gly Glu Asp Cys Ala Phe Val
                325                 330                 335
Cys Ala Asp Cys Gly Ser Gly His Cys Asp Phe Gln Ser Gly Arg Cys
            340                 345                 350
Leu Cys Ser Pro Gly Val His Gly Pro His Cys Asn Val Thr Cys Pro
        355                 360                 365
Pro Gly Leu His Gly Ala Asp Cys Ala Gln Ala Cys Ser Cys His Glu
    370                 375                 380
Asp Thr Cys Asp Pro Val Thr Gly Ala Cys His Leu Glu Thr Asn Gln
385                 390                 395                 400
Arg Lys Gly Val Met Gly Ala Gly Ala Leu Leu Val Leu Leu Val Cys
                405                 410                 415
Leu Leu Leu Ser Leu Leu Gly Cys Cys Cys Ala Cys Arg Gly Lys Asp
            420                 425                 430
Pro Thr Arg Arg Pro Arg Pro Arg Arg Glu Leu Ser Leu Gly Arg Lys
        435                 440                 445
Lys Ala Pro His Arg Leu Cys Gly Arg Phe Ser Arg Ile Ser Met Lys
    450                 455                 460
Leu Pro Arg Ile Pro Leu Arg Arg Gln Lys Leu Pro Lys Val Val Val
465                 470                 475                 480
Ala His His Asp Leu Asp Asn Thr Leu Asn Cys Ser Phe Leu Glu Pro
                485                 490                 495
Pro Ser Gly Leu Glu Gln Pro Ser Pro Ser Trp Ser Ser Arg Ala Ser
            500                 505                 510
Phe Ser Ser Phe Asp Thr Thr Asp Glu Gly Pro Val Tyr Cys Val Pro
```

```
        515                 520                 525
His Glu Glu Ala Pro Ala Glu Ser Arg Asp Pro Glu Val Pro Thr Val
    530                 535                 540
Pro Ala Glu Ala Pro Ala Pro Ser Pro Val Pro Leu Thr Thr Pro Ala
545                 550                 555                 560
Ser Ala Glu Glu Ala Ile Pro Leu Pro Ala Ser Ser Asp Ser Glu Arg
                565                 570                 575
Ser Ala Ser Ser Val Glu Gly Pro Gly Gly Ala Leu Tyr Ala Arg Val
            580                 585                 590
Ala Arg Arg Glu Ala Arg Pro Ala Arg Ala Arg Gly Glu Ile Gly Gly
        595                 600                 605
Leu Ser Leu Ser Pro Ser Pro Glu Arg Arg Lys Pro Pro Pro Pro Asp
    610                 615                 620
Pro Ala Thr Lys Pro Lys Val Ser Trp Ile His Gly Lys His Ser Ala
625                 630                 635                 640
Ala Ala Ala Gly Arg Ala Pro Ser Pro Pro Pro Pro Gly Ser Glu Ala
                645                 650                 655
Ala Pro Ser Pro Ser Lys Arg Lys Arg Thr Pro Ser Asp Lys Ser Ala
            660                 665                 670
His Thr Val Glu His Gly Ser Pro Arg Thr Arg Asp Pro Thr Pro Arg
        675                 680                 685
Pro Pro Gly Leu Pro Glu Glu Ala Thr Ala Leu Ala Ala Pro Ser Pro
    690                 695                 700
Pro Arg Ala Arg Ala Arg Ala Ala Pro Arg Pro Leu Gly Ala His Gly
705                 710                 715                 720
Arg Arg Arg Ser Pro Ala Lys Arg Ala Glu Ala Ala Ser Met Leu Ala
                725                 730                 735
Ala Asp Val Arg Gly Lys Thr Arg Ser Leu Gly Arg Ala Glu Val Ala
            740                 745                 750
Leu Gly Ala Gln Gly Pro Arg Glu Lys Pro Ala Pro Pro Gln Lys Ala
        755                 760                 765
Lys Arg Ser Val Pro Pro Ala Ser Pro Ala Arg Ala Pro Pro Ala Thr
    770                 775                 780
Glu Thr Pro Gly Pro Glu Lys Ala Ala Thr Asp Leu Pro Ala Pro Glu
785                 790                 795                 800
Thr Pro Arg Lys Lys Thr Pro Ile Gln Lys Pro Pro Arg Lys Lys Ser
                805                 810                 815
Arg Glu Ala Ala Gly Glu Leu Gly Arg Ala Gly Ala Pro Thr Leu
            820                 825                 830
```

<210> 86
<211> 871
<212> PRT
<213> homo sapiens

<400> 86

```
Asx Met Glu Gly Ala Gly Pro Arg Gly Ala Gly Pro Ala Arg Arg Arg
 1                5                  10                  15
Gly Ala Gly Gly Pro Pro Ser Pro Leu Leu Pro Ser Leu Leu Leu Leu
            20                  25                  30
Leu Leu Leu Trp Met Leu Pro Asp Thr Val Ala Pro Gln Glu Leu Asn
        35                  40                  45
Pro Arg Gly Arg Asn Val Cys Arg Ala Pro Gly Ser Gln Val Pro Thr
    50                  55                  60
Cys Cys Ala Gly Trp Arg Gln Gln Gly Asp Glu Cys Gly Ile Ala Val
65                  70                  75                  80
Cys Glu Gly Asn Ser Thr Cys Ser Glu Asn Glu Val Cys Val Arg Pro
                85                  90                  95
```

```
Gly Glu Cys Arg Cys Arg His Gly Tyr Phe Gly Ala Asn Cys Asp Thr
            100                 105                 110
Lys Cys Pro Arg Gln Phe Trp Gly Pro Asp Cys Lys Glu Leu Cys Ser
        115                 120                 125
Cys His Pro His Gly Gln Cys Glu Asp Val Thr Gly Gln Cys Thr Cys
    130                 135                 140
His Ala Arg Arg Trp Gly Ala Arg Cys Glu His Ala Cys Gln Cys Gln
145                 150                 155                 160
His Gly Thr Cys His Pro Arg Ser Gly Ala Cys Arg Cys Glu Ser Gly
                165                 170                 175
Trp Trp Gly Ala Gln Cys Ala Ser Ala Cys Tyr Cys Ser Ala Thr Ser
            180                 185                 190
Arg Cys Asp Pro Gln Thr Gly Ala Cys Leu Cys His Ala Gly Trp Trp
        195                 200                 205
Gly Arg Ser Cys Asn Asn Gln Cys Ala Cys Asn Ser Ser Pro Cys Glu
    210                 215                 220
Gln Gln Ser Gly Arg Cys Gln Cys Arg Glu Arg Thr Phe Gly Ala Arg
225                 230                 235                 240
Cys Asp Arg Tyr Cys Gln Cys Phe Arg Gly Arg Cys His Pro Val Asp
                245                 250                 255
Gly Thr Cys Ala Cys Glu Pro Gly Tyr Arg Gly Lys Tyr Cys Arg Glu
            260                 265                 270
Pro Cys Pro Ala Gly Phe Tyr Gly Leu Gly Cys Arg Arg Arg Cys Gly
        275                 280                 285
Gln Cys Lys Gly Gln Gln Pro Cys Thr Val Ala Glu Gly Arg Cys Leu
    290                 295                 300
Thr Cys Glu Pro Gly Trp Asn Gly Thr Lys Cys Asp Gln Pro Cys Ala
305                 310                 315                 320
Thr Gly Phe Tyr Gly Glu Gly Cys Ser His Arg Cys Pro Pro Cys Arg
                325                 330                 335
Asp Gly His Ala Cys Asn His Val Thr Gly Lys Cys Thr Arg Cys Asn
            340                 345                 350
Ala Gly Trp Ile Gly Asp Arg Cys Glu Thr Lys Cys Ser Asn Gly Thr
        355                 360                 365
Tyr Gly Glu Asp Cys Ala Phe Val Cys Ala Asp Cys Gly Ser Gly His
    370                 375                 380
Cys Asp Phe Gln Ser Gly Arg Cys Leu Cys Ser Pro Gly Val His Gly
385                 390                 395                 400
Pro His Cys Asn Val Thr Cys Pro Pro Gly Leu His Gly Ala Asp Cys
                405                 410                 415
Ala Gln Ala Cys Ser Cys His Glu Asp Thr Cys Asp Pro Val Thr Gly
            420                 425                 430
Ala Cys His Leu Glu Thr Asn Gln Arg Lys Gly Val Met Gly Ala Gly
        435                 440                 445
Ala Leu Leu Val Leu Leu Val Cys Leu Leu Leu Ser Leu Leu Gly Cys
    450                 455                 460
Cys Cys Ala Cys Arg Gly Lys Asp Pro Thr Arg Arg Pro Arg Pro Arg
465                 470                 475                 480
Arg Glu Leu Ser Leu Gly Arg Lys Lys Ala Pro His Arg Leu Cys Gly
                485                 490                 495
Arg Phe Ser Arg Ile Ser Met Lys Leu Pro Arg Ile Pro Leu Arg Arg
            500                 505                 510
Gln Lys Leu Pro Lys Val Val Val Ala His His Asp Leu Asp Asn Thr
        515                 520                 525
Leu Asn Cys Ser Phe Leu Glu Pro Pro Ser Gly Leu Glu Gln Pro Ser
    530                 535                 540
Pro Ser Trp Ser Ser Arg Ala Ser Phe Ser Ser Phe Asp Thr Thr Asp
545                 550                 555                 560
Glu Gly Pro Val Tyr Cys Val Pro His Glu Glu Ala Pro Ala Glu Ser
```

```
                565                 570                 575
Arg Asp Pro Glu Val Pro Thr Val Pro Ala Glu Ala Pro Ala Pro Ser
            580                 585                 590
Pro Val Pro Leu Thr Thr Pro Ala Ser Ala Glu Glu Ala Ile Pro Leu
        595                 600                 605
Pro Ala Ser Ser Asp Ser Glu Arg Ser Ala Ser Ser Val Glu Gly Pro
    610                 615                 620
Gly Gly Ala Leu Tyr Ala Arg Val Ala Arg Arg Glu Ala Arg Pro Ala
625                 630                 635                 640
Arg Ala Arg Gly Glu Ile Gly Gly Leu Ser Leu Ser Pro Ser Pro Glu
                645                 650                 655
Arg Arg Lys Pro Pro Pro Pro Asp Pro Ala Thr Lys Pro Lys Val Ser
            660                 665                 670
Trp Ile His Gly Lys His Ser Ala Ala Ala Ala Gly Arg Ala Pro Ser
        675                 680                 685
Pro Pro Pro Pro Gly Ser Glu Ala Ala Pro Ser Pro Ser Lys Arg Lys
    690                 695                 700
Arg Thr Pro Ser Asp Lys Ser Ala His Thr Val Glu His Gly Ser Pro
705                 710                 715                 720
Arg Thr Arg Asp Pro Thr Pro Arg Pro Pro Gly Leu Pro Glu Glu Ala
                725                 730                 735
Thr Ala Leu Ala Ala Pro Ser Pro Pro Arg Ala Arg Ala Arg Ala Ala
            740                 745                 750
Pro Arg Pro Leu Gly Ala His Gly Arg Arg Arg Ser Pro Ala Lys Arg
        755                 760                 765
Ala Glu Ala Ala Ser Met Leu Ala Ala Asp Val Arg Gly Lys Thr Arg
    770                 775                 780
Ser Leu Gly Arg Ala Glu Val Ala Leu Gly Ala Gln Gly Pro Arg Glu
785                 790                 795                 800
Lys Pro Ala Pro Pro Gln Lys Ala Lys Arg Ser Val Pro Pro Ala Ser
                805                 810                 815
Pro Ala Arg Ala Pro Pro Ala Thr Glu Thr Pro Gly Pro Glu Lys Ala
            820                 825                 830
Ala Thr Asp Leu Pro Ala Pro Glu Thr Pro Arg Lys Lys Thr Pro Ile
        835                 840                 845
Gln Lys Pro Pro Arg Lys Lys Ser Arg Glu Ala Ala Gly Glu Leu Gly
    850                 855                 860
Arg Ala Gly Ala Pro Thr Leu
865                 870
```

<210> 87
<211> 134
<212> PRT
<213> homo sapiens

<400> 87

```
Ile Asp Cys Arg Ala Glu Gln Gly Arg Thr Pro Leu Met Val Ala Val
 1                5                  10                  15
Gly Leu Pro Asp Pro Ala Leu Arg Ala Arg Phe Val Arg Leu Leu Leu
            20                  25                  30
Glu Gln Gly Ala Ala Val Asn Leu Arg Asp Glu Arg Gly Arg Thr Ala
        35                  40                  45
Leu Ser Leu Ala Cys Glu Arg Gly His Leu Asp Ala Val Gln Leu Leu
    50                  55                  60
Val Gln Phe Ser Gly Asp Pro Glu Ala Ala Asp Ser Ala Gly Asn Ser
65                  70                  75                  80
Pro Val Met Trp Ala Ala Ala Cys Gly His Gly Ala Val Leu Glu Phe
                85                  90                  95
```

```
Leu Val Arg Ser Phe Arg Arg Leu Gly Leu Arg Leu Asp Arg Thr Asn
            100                 105                 110
Arg Ala Gly Leu Thr Ala Leu Gln Leu Ala Ala Ala Arg Gly His Gly
        115                 120                 125
Thr Cys Val Gln Ala Leu
    130
```

<210> 88
<211> 324
<212> PRT
<213> homo sapiens

<400> 88

```
Met Leu Lys Pro Lys Asp Leu Cys Pro Arg Ala Gly Thr Arg Thr Phe
 1               5                  10                  15
Leu Glu Ala Met Gln Ala Gly Lys Val His Leu Ala Arg Phe Val Leu
            20                  25                  30
Asp Ala Leu Asp Arg Ser Ile Ile Asp Cys Arg Ala Glu Gln Gly Arg
        35                  40                  45
Thr Pro Leu Met Val Ala Val Gly Leu Pro Asp Pro Ala Leu Arg Ala
    50                  55                  60
Arg Phe Val Arg Leu Leu Leu Glu Gln Gly Ala Ala Val Asn Leu Arg
65                  70                  75                  80
Asp Glu Arg Gly Arg Thr Ala Leu Ser Leu Ala Cys Glu Arg Gly His
                85                  90                  95
Leu Asp Ala Val Gln Leu Leu Val Gln Phe Ser Gly Asp Pro Glu Ala
            100                 105                 110
Ala Asp Ser Ala Gly Asn Ser Pro Val Met Trp Ala Ala Ala Cys Gly
        115                 120                 125
His Gly Ala Val Leu Glu Phe Leu Val Arg Ser Phe Arg Arg Leu Gly
    130                 135                 140
Leu Arg Leu Asp Arg Thr Asn Arg Ala Gly Leu Thr Ala Leu Gln Leu
145                 150                 155                 160
Ala Ala Ala Arg Gly His Gly Thr Ser Ala Gly Gly His Gly Gly Glu
                165                 170                 175
Ala Gly Ser Ala Gly Lys Asn Ser Gly Arg His Arg Ala Gln Gly Ser
            180                 185                 190
Glu Arg Pro Glu Leu Gly Arg Ser Met Ser Leu Ala Leu Gly Ala Val
        195                 200                 205
Thr Glu Glu Glu Ala Ala Arg Leu Arg Ala Gly Ala Leu Met Ala Leu
    210                 215                 220
Pro Asn Ser Pro Gln Ser Ser Gly Thr Gly Arg Trp Arg Ser Gln Glu
225                 230                 235                 240
Val Leu Glu Gly Ala Pro Pro Thr Leu Ala Gln Ala Pro Ile Gly Leu
                245                 250                 255
Ser Pro His Pro Glu Gly Gly Pro Gly Ser Gly Arg Leu Gly Leu Arg
            260                 265                 270
Arg Arg Ser Thr Ala Pro Asp Ile Pro Ser Leu Val Gly Glu Ala Pro
        275                 280                 285
Gly Pro Glu Ser Gly Pro Glu Leu Glu Ala Asn Ala Leu Ser Val Ser
    290                 295                 300
Val Pro Gly Pro Asn Pro Trp Gln Ala Gly Thr Glu Ala Val Val Leu
305                 310                 315                 320
Arg Ala Gln Arg
```