Sequence Listing

<110> Doronina, Svetlana O.
Toki, Brian E.
Senter, Peter D.
Ebens, Allen J.
Polakis, Paul
Sliwkowski, Mark X.
Spencer, Susan D.
Kline, Toni Beth

<120> MONOMETHYLVALINE COMPOUNDS CAPABLE OF CONJUGATION TO LIGANDS

<130> 018891-001020PC

<141> 2004-11-05

<150> US 60/598,899
<151> 2004-08-04

<150> US 60/557,116
<151> 2004-03-26

<150> US 60/518,534
<151> 2003-11-06

<160> 35

<210> 1
<211> 502
<212> PRT
<213> Homo sapien

<400> 1

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

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

Arg Cys Lys Cys His His His Cys Pro Glu Asp Ser Val Asn Asn
        35                  40                  45

Ile Cys Ser Thr Asp Gly Tyr Cys Phe Thr Met Ile Glu Glu Asp
    50                  55                  60

Asp Ser Gly Leu Pro Val Val Thr Ser Gly Cys Leu Gly Leu Glu
65                  70                  75

Gly Ser Asp Phe Gln Cys Arg Asp Thr Pro Ile Pro His Gln Arg
                80                  85                  90

Arg Ser Ile Glu Cys Cys Thr Glu Arg Asn Glu Cys Asn Lys Asp
            95                  100                 105

Leu His Pro Thr Leu Pro Pro Leu Lys Asn Arg Asp Phe Val Asp
        110                 115                 120

Gly Pro Ile His His Arg Ala Leu Leu Ile Ser Val Thr Val Cys
    125                 130                 135
```

Ser Leu Leu Leu Val Leu Ile Ile Leu Phe Cys Tyr Phe Arg Tyr
140 145 150

Lys Arg Gln Glu Thr Arg Pro Arg Tyr Ser Ile Gly Leu Glu Gln
155 160 165

Asp Glu Thr Tyr Ile Pro Pro Gly Glu Ser Leu Arg Asp Leu Ile
170 175 180

Glu Gln Ser Gln Ser Ser Gly Ser Gly Ser Gly Leu Pro Leu Leu
185 190 195

Val Gln Arg Thr Ile Ala Lys Gln Ile Gln Met Val Lys Gln Ile
200 205 210

Gly Lys Gly Arg Tyr Gly Glu Val Trp Met Gly Lys Trp Arg Gly
215 220 225

Glu Lys Val Ala Val Lys Val Phe Phe Thr Thr Glu Glu Ala Ser
230 235 240

Trp Phe Arg Glu Thr Glu Ile Tyr Gln Thr Val Leu Met Arg His
245 250 255

Glu Asn Ile Leu Gly Phe Ile Ala Ala Asp Ile Lys Gly Thr Gly
260 265 270

Ser Trp Thr Gln Leu Tyr Leu Ile Thr Asp Tyr His Glu Asn Gly
275 280 285

Ser Leu Tyr Asp Tyr Leu Lys Ser Thr Thr Leu Asp Ala Lys Ser
290 295 300

Met Leu Lys Leu Ala Tyr Ser Ser Val Ser Gly Leu Cys His Leu
305 310 315

His Thr Glu Ile Phe Ser Thr Gln Gly Lys Pro Ala Ile Ala His
320 325 330

Arg Asp Leu Lys Ser Lys Asn Ile Leu Val Lys Lys Asn Gly Thr
335 340 345

Cys Cys Ile Ala Asp Leu Gly Leu Ala Val Lys Phe Ile Ser Asp
350 355 360

Thr Asn Glu Val Asp Ile Pro Pro Asn Thr Arg Val Gly Thr Lys
365 370 375

Arg Tyr Met Pro Pro Glu Val Leu Asp Glu Ser Leu Asn Arg Asn
380 385 390

His Phe Gln Ser Tyr Ile Met Ala Asp Met Tyr Ser Phe Gly Leu
395 400 405

Ile Leu Trp Glu Val Ala Arg Arg Cys Val Ser Gly Gly Ile Val
410 415 420

Glu Glu Tyr Gln Leu Pro Tyr His Asp Leu Val Pro Ser Asp Pro
425 430 435

Ser Tyr Glu Asp Met Arg Glu Ile Val Cys Ile Lys Lys Leu Arg

```
                440                 445                 450

Pro Ser Phe Pro Asn Arg Trp Ser Ser Asp Glu Cys Leu Arg Gln
                455                 460                 465

Met Gly Lys Leu Met Thr Glu Cys Trp Ala His Asn Pro Ala Ser
                470                 475                 480

Arg Leu Thr Ala Leu Arg Val Lys Lys Thr Leu Ala Lys Met Ser
                485                 490                 495

Glu Ser Gln Asp Ile Lys Leu
                500
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<210> 2
<211> 507
<212> PRT
<213> Homo sapien

<400> 2

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 Met Ala Gly Ala Gly Pro Lys Arg Arg Ala Leu Ala Ala Pro Ala
   1               5                  10                  15

 Ala Glu Glu Lys Glu Glu Ala Arg Glu Lys Met Leu Ala Ala Lys
                20                  25                  30

 Ser Ala Asp Gly Ser Ala Pro Ala Gly Glu Gly Glu Gly Val Thr
                35                  40                  45

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

 Gly Thr Ile Ile Gly Ser Gly Ile Phe Val Thr Pro Thr Gly Val
                65                  70                  75

 Leu Lys Glu Ala Gly Ser Pro Gly Leu Ala Leu Val Val Trp Ala
                80                  85                  90

 Ala Cys Gly Val Phe Ser Ile Val Gly Ala Leu Cys Tyr Ala Glu
                95                 100                 105

 Leu Gly Thr Thr Ile Ser Lys Ser Gly Gly Asp Tyr Ala Tyr Met
               110                 115                 120

 Leu Glu Val Tyr Gly Ser Leu Pro Ala Phe Leu Lys Leu Trp Ile
               125                 130                 135

 Glu Leu Leu Ile Ile Arg Pro Ser Ser Gln Tyr Ile Val Ala Leu
               140                 145                 150

 Val Phe Ala Thr Tyr Leu Leu Lys Pro Leu Phe Pro Thr Cys Pro
               155                 160                 165

 Val Pro Glu Glu Ala Ala Lys Leu Val Ala Cys Leu Cys Val Leu
               170                 175                 180

 Leu Leu Thr Ala Val Asn Cys Tyr Ser Val Lys Ala Ala Thr Arg
               185                 190                 195

 Val Gln Asp Ala Phe Ala Ala Ala Lys Leu Leu Ala Leu Ala Leu
               200                 205                 210
```

Ile Ile Leu Leu Gly Phe Val Gln Ile Gly Lys Gly Val Val Ser
215 220 225

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

Gly Asn Ile Val Leu Ala Leu Tyr Ser Gly Leu Phe Ala Tyr Gly
245 250 255

Gly Trp Asn Tyr Leu Asn Phe Val Thr Glu Glu Met Ile Asn Pro
260 265 270

Tyr Arg Asn Leu Pro Leu Ala Ile Ile Ile Ser Leu Pro Ile Val
275 280 285

Thr Leu Val Tyr Val Leu Thr Asn Leu Ala Tyr Phe Thr Thr Leu
290 295 300

Ser Thr Glu Gln Met Leu Ser Ser Glu Ala Val Ala Val Asp Phe
305 310 315

Gly Asn Tyr His Leu Gly Val Met Ser Trp Ile Ile Pro Val Phe
320 325 330

Val Gly Leu Ser Cys Phe Gly Ser Val Asn Gly Ser Leu Phe Thr
335 340 345

Ser Ser Arg Leu Phe Phe Val Gly Ser Arg Glu Gly His Leu Pro
350 355 360

Ser Ile Leu Ser Met Ile His Pro Gln Leu Leu Thr Pro Val Pro
365 370 375

Ser Leu Val Phe Thr Cys Val Met Thr Leu Leu Tyr Ala Phe Ser
380 385 390

Lys Asp Ile Phe Ser Val Ile Asn Phe Phe Ser Phe Phe Asn Trp
395 400 405

Leu Cys Val Ala Leu Ala Ile Ile Gly Met Ile Trp Leu Arg His
410 415 420

Arg Lys Pro Glu Leu Glu Arg Pro Ile Lys Val Asn Leu Ala Leu
425 430 435

Pro Val Phe Phe Ile Leu Ala Cys Leu Phe Leu Ile Ala Val Ser
440 445 450

Phe Trp Lys Thr Pro Val Glu Cys Gly Ile Gly Phe Thr Ile Ile
455 460 465

Leu Ser Gly Leu Pro Val Tyr Phe Phe Gly Val Trp Trp Lys Asn
470 475 480

Lys Pro Lys Trp Leu Leu Gln Gly Ile Phe Ser Thr Thr Val Leu
485 490 495

Cys Gln Lys Leu Met Gln Val Val Pro Gln Glu Thr
500 505

<210> 3
<211> 339
<212> PRT
<213> Homo sapien

<400> 3

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Met Glu Ser Arg Lys Asp Ile Thr Asn Gln Glu Glu Leu Trp Lys
  1               5                  10                  15

Met Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys
             20                  25                  30

Asp Thr Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His
             35                  40                  45

Leu His Gln Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu
             50                  55                  60

Leu Gln His Thr Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile
             65                  70                  75

Lys Ile Ala Ala Ile Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu
             80                  85                  90

Leu Arg Glu Val Ile His Pro Leu Ala Thr Ser His Gln Gln Tyr
             95                 100                 105

Phe Tyr Lys Ile Pro Ile Leu Val Ile Asn Lys Val Leu Pro Met
            110                 115                 120

Val Ser Ile Thr Leu Leu Ala Leu Val Tyr Leu Pro Gly Val Ile
            125                 130                 135

Ala Ala Ile Val Gln Leu His Asn Gly Thr Lys Tyr Lys Lys Phe
            140                 145                 150

Pro His Trp Leu Asp Lys Trp Met Leu Thr Arg Lys Gln Phe Gly
            155                 160                 165

Leu Leu Ser Phe Phe Phe Ala Val Leu His Ala Ile Tyr Ser Leu
            170                 175                 180

Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu Leu Asn Trp
            185                 190                 195

Ala Tyr Gln Gln Val Gln Gln Asn Lys Glu Asp Ala Trp Ile Glu
            200                 205                 210

His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile Val
            215                 220                 225

Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser
            230                 235                 240

Val Ser Asp Ser Leu Thr Trp Arg Glu Phe His Tyr Ile Gln Ser
            245                 250                 255

Lys Leu Gly Ile Val Ser Leu Leu Leu Gly Thr Ile His Ala Leu
            260                 265                 270

Ile Phe Ala Trp Asn Lys Trp Ile Asp Ile Lys Gln Phe Val Trp
```

```
                275                 280                 285

Tyr Thr Pro Pro Thr Phe Met Ile Ala Val Phe Leu Pro Ile Val
                290                 295                 300

Val Leu Ile Phe Lys Ser Ile Leu Phe Leu Pro Cys Leu Arg Lys
                305                 310                 315

Lys Ile Leu Lys Ile Arg His Gly Trp Glu Asp Val Thr Lys Ile
                320                 325                 330

Asn Lys Thr Glu Ile Cys Ser Gln Leu
                335
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<210> 4
<211> 6995
<212> PRT
<213> Homo sapien

<400> 4

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Pro Val Thr Ser Leu Leu Thr Pro Gly Leu Val Ile Thr Thr Asp
  1               5                  10                  15

Arg Met Gly Ile Ser Arg Glu Pro Gly Thr Ser Ser Thr Ser Asn
                20                  25                  30

Leu Ser Ser Thr Ser His Glu Arg Leu Thr Thr Leu Glu Asp Thr
                35                  40                  45

Val Asp Thr Glu Ala Met Gln Pro Ser Thr His Thr Ala Val Thr
                50                  55                  60

Asn Val Arg Thr Ser Ile Ser Gly His Glu Ser Gln Ser Ser Val
                65                  70                  75

Leu Ser Asp Ser Glu Thr Pro Lys Ala Thr Ser Pro Met Gly Thr
                80                  85                  90

Thr Tyr Thr Met Gly Glu Thr Ser Val Ser Ile Ser Thr Ser Asp
                95                 100                 105

Phe Phe Glu Thr Ser Arg Ile Gln Ile Glu Pro Thr Ser Ser Leu
               110                 115                 120

Thr Ser Gly Leu Arg Glu Thr Ser Ser Ser Glu Arg Ile Ser Ser
               125                 130                 135

Ala Thr Glu Gly Ser Thr Val Leu Ser Glu Val Pro Ser Gly Ala
               140                 145                 150

Thr Thr Glu Val Ser Arg Thr Glu Val Ile Ser Ser Arg Gly Thr
               155                 160                 165

Ser Met Ser Gly Pro Asp Gln Phe Thr Ile Ser Pro Asp Ile Ser
               170                 175                 180

Thr Glu Ala Ile Thr Arg Leu Ser Thr Ser Pro Ile Met Thr Glu
               185                 190                 195

Ser Ala Glu Ser Ala Ile Thr Ile Glu Thr Gly Ser Pro Gly Ala
               200                 205                 210
```

Thr Ser Glu Gly Thr Leu Thr Leu Asp Thr Ser Thr Thr Thr Phe
215 220 225

Trp Ser Gly Thr His Ser Thr Ala Ser Pro Gly Phe Ser His Ser
230 235 240

Glu Met Thr Thr Leu Met Ser Arg Thr Pro Gly Asp Val Pro Trp
245 250 255

Pro Ser Leu Pro Ser Val Glu Glu Ala Ser Ser Val Ser Ser Ser
260 265 270

Leu Ser Ser Pro Ala Met Thr Ser Thr Ser Phe Phe Ser Thr Leu
275 280 285

Pro Glu Ser Ile Ser Ser Ser Pro His Pro Val Thr Ala Leu Leu
290 295 300

Thr Leu Gly Pro Val Lys Thr Thr Asp Met Leu Arg Thr Ser Ser
305 310 315

Glu Pro Glu Thr Ser Ser Pro Pro Asn Leu Ser Ser Thr Ser Ala
320 325 330

Glu Ile Leu Ala Thr Ser Glu Val Thr Lys Asp Arg Glu Lys Ile
335 340 345

His Pro Ser Ser Asn Thr Pro Val Val Asn Val Gly Thr Val Ile
350 355 360

Tyr Lys His Leu Ser Pro Ser Ser Val Leu Ala Asp Leu Val Thr
365 370 375

Thr Lys Pro Thr Ser Pro Met Ala Thr Thr Ser Thr Leu Gly Asn
380 385 390

Thr Ser Val Ser Thr Ser Thr Pro Ala Phe Pro Glu Thr Met Met
395 400 405

Thr Gln Pro Thr Ser Ser Leu Thr Ser Gly Leu Arg Glu Ile Ser
410 415 420

Thr Ser Gln Glu Thr Ser Ser Ala Thr Glu Arg Ser Ala Ser Leu
425 430 435

Ser Gly Met Pro Thr Gly Ala Thr Thr Lys Val Ser Arg Thr Glu
440 445 450

Ala Leu Ser Leu Gly Arg Thr Ser Thr Pro Gly Pro Ala Gln Ser
455 460 465

Thr Ile Ser Pro Glu Ile Ser Thr Glu Thr Ile Thr Arg Ile Ser
470 475 480

Thr Pro Leu Thr Thr Thr Gly Ser Ala Glu Met Thr Ile Thr Pro
485 490 495

Lys Thr Gly His Ser Gly Ala Ser Ser Gln Gly Thr Phe Thr Leu
500 505 510

Asp Thr Ser Ser Arg Ala Ser Trp Pro Gly Thr His Ser Ala Ala
515 520 525

Thr His Arg Ser Pro His Ser Gly Met Thr Thr Pro Met Ser Arg
530 535 540

Gly Pro Glu Asp Val Ser Trp Pro Ser Arg Pro Ser Val Glu Lys
545 550 555

Thr Ser Pro Pro Ser Ser Leu Val Ser Leu Ser Ala Val Thr Ser
560 565 570

Pro Ser Pro Leu Tyr Ser Thr Pro Ser Glu Ser Ser His Ser Ser
575 580 585

Pro Leu Arg Val Thr Ser Leu Phe Thr Pro Val Met Met Lys Thr
590 595 600

Thr Asp Met Leu Asp Thr Ser Leu Glu Pro Val Thr Thr Ser Pro
605 610 615

Pro Ser Met Asn Ile Thr Ser Asp Glu Ser Leu Ala Thr Ser Lys
620 625 630

Ala Thr Met Glu Thr Glu Ala Ile Gln Leu Ser Glu Asn Thr Ala
635 640 645

Val Thr Gln Met Gly Thr Ile Ser Ala Arg Gln Glu Phe Tyr Ser
650 655 660

Ser Tyr Pro Gly Leu Pro Glu Pro Ser Lys Val Thr Ser Pro Val
665 670 675

Val Thr Ser Ser Thr Ile Lys Asp Ile Val Ser Thr Thr Ile Pro
680 685 690

Ala Ser Ser Glu Ile Thr Arg Ile Glu Met Glu Ser Thr Ser Thr
695 700 705

Leu Thr Pro Thr Pro Arg Glu Thr Ser Thr Ser Gln Glu Ile His
710 715 720

Ser Ala Thr Lys Pro Ser Thr Val Pro Tyr Lys Ala Leu Thr Ser
725 730 735

Ala Thr Ile Glu Asp Ser Met Thr Gln Val Met Ser Ser Ser Arg
740 745 750

Gly Pro Ser Pro Asp Gln Ser Thr Met Ser Gln Asp Ile Ser Thr
755 760 765

Glu Val Ile Thr Arg Leu Ser Thr Ser Pro Ile Lys Thr Glu Ser
770 775 780

Thr Glu Met Thr Ile Thr Thr Gln Thr Gly Ser Pro Gly Ala Thr
785 790 795

Ser Arg Gly Thr Leu Thr Leu Asp Thr Ser Thr Thr Phe Met Ser
800 805 810

Gly Thr His Ser Thr Ala Ser Gln Gly Phe Ser His Ser Gln Met

815 820 825

Thr Ala Leu Met Ser Arg Thr Pro Gly Glu Val Pro Trp Leu Ser
830 835 840

His Pro Ser Val Glu Glu Ala Ser Ser Ala Ser Phe Ser Leu Ser
845 850 855

Ser Pro Val Met Thr Ser Ser Ser Pro Val Ser Ser Thr Leu Pro
860 865 870

Asp Ser Ile His Ser Ser Ser Leu Pro Val Thr Ser Leu Leu Thr
875 880 885

Ser Gly Leu Val Lys Thr Thr Glu Leu Leu Gly Thr Ser Ser Glu
890 895 900

Pro Glu Thr Ser Ser Pro Pro Asn Leu Ser Ser Thr Ser Ala Glu
905 910 915

Ile Leu Ala Thr Thr Glu Val Thr Thr Asp Thr Glu Lys Leu Glu
920 925 930

Met Thr Asn Val Val Thr Ser Gly Tyr Thr His Glu Ser Pro Ser
935 940 945

Ser Val Leu Ala Asp Ser Val Thr Thr Lys Ala Thr Ser Ser Met
950 955 960

Gly Ile Thr Tyr Pro Thr Gly Asp Thr Asn Val Leu Thr Ser Thr
965 970 975

Pro Ala Phe Ser Asp Thr Ser Arg Ile Gln Thr Lys Ser Lys Leu
980 985 990

Ser Leu Thr Pro Gly Leu Met Glu Thr Ser Ile Ser Glu Glu Thr
995 1000 1005

Ser Ser Ala Thr Glu Lys Ser Thr Val Leu Ser Ser Val Pro Thr
1010 1015 1020

Gly Ala Thr Thr Glu Val Ser Arg Thr Glu Ala Ile Ser Ser Ser
1025 1030 1035

Arg Thr Ser Ile Pro Gly Pro Ala Gln Ser Thr Met Ser Ser Asp
1040 1045 1050

Thr Ser Met Glu Thr Ile Thr Arg Ile Ser Thr Pro Leu Thr Arg
1055 1060 1065

Lys Glu Ser Thr Asp Met Ala Ile Thr Pro Lys Thr Gly Pro Ser
1070 1075 1080

Gly Ala Thr Ser Gln Gly Thr Phe Thr Leu Asp Ser Ser Ser Thr
1085 1090 1095

Ala Ser Trp Pro Gly Thr His Ser Ala Thr Thr Gln Arg Phe Pro
1100 1105 1110

Arg Ser Val Val Thr Thr Pro Met Ser Arg Gly Pro Glu Asp Val
1115 1120 1125

Ser Trp Pro Ser Pro Leu Ser Val Glu Lys Asn Ser Pro Pro Ser
1130 1135 1140

Ser Leu Val Ser Ser Ser Ser Val Thr Ser Pro Ser Pro Leu Tyr
1145 1150 1155

Ser Thr Pro Ser Gly Ser Ser His Ser Ser Pro Val Pro Val Thr
1160 1165 1170

Ser Leu Phe Thr Ser Ile Met Met Lys Ala Thr Asp Met Leu Asp
1175 1180 1185

Ala Ser Leu Glu Pro Glu Thr Thr Ser Ala Pro Asn Met Asn Ile
1190 1195 1200

Thr Ser Asp Glu Ser Leu Ala Ala Ser Lys Ala Thr Thr Glu Thr
1205 1210 1215

Glu Ala Ile His Val Phe Glu Asn Thr Ala Ala Ser His Val Glu
1220 1225 1230

Thr Thr Ser Ala Thr Glu Glu Leu Tyr Ser Ser Ser Pro Gly Phe
1235 1240 1245

Ser Glu Pro Thr Lys Val Ile Ser Pro Val Val Thr Ser Ser Ser
1250 1255 1260

Ile Arg Asp Asn Met Val Ser Thr Thr Met Pro Gly Ser Ser Gly
1265 1270 1275

Ile Thr Arg Ile Glu Ile Glu Ser Met Ser Ser Leu Thr Pro Gly
1280 1285 1290

Leu Arg Glu Thr Arg Thr Ser Gln Asp Ile Thr Ser Ser Thr Glu
1295 1300 1305

Thr Ser Thr Val Leu Tyr Lys Met Pro Ser Gly Ala Thr Pro Glu
1310 1315 1320

Val Ser Arg Thr Glu Val Met Pro Ser Ser Arg Thr Ser Ile Pro
1325 1330 1335

Gly Pro Ala Gln Ser Thr Met Ser Leu Asp Ile Ser Asp Glu Val
1340 1345 1350

Val Thr Arg Leu Ser Thr Ser Pro Ile Met Thr Glu Ser Ala Glu
1355 1360 1365

Ile Thr Ile Thr Thr Gln Thr Gly Tyr Ser Leu Ala Thr Ser Gln
1370 1375 1380

Val Thr Leu Pro Leu Gly Thr Ser Met Thr Phe Leu Ser Gly Thr
1385 1390 1395

His Ser Thr Met Ser Gln Gly Leu Ser His Ser Glu Met Thr Asn
1400 1405 1410

Leu Met Ser Arg Gly Pro Glu Ser Leu Ser Trp Thr Ser Pro Arg
1415 1420 1425

Phe Val Glu Thr Thr Arg Ser Ser Ser Ser Leu Thr Ser Leu Pro
1430 1435 1440

Leu Thr Thr Ser Leu Ser Pro Val Ser Ser Thr Leu Leu Asp Ser
1445 1450 1455

Ser Pro Ser Ser Pro Leu Pro Val Thr Ser Leu Ile Leu Pro Gly
1460 1465 1470

Leu Val Lys Thr Thr Glu Val Leu Asp Thr Ser Ser Glu Pro Lys
1475 1480 1485

Thr Ser Ser Ser Pro Asn Leu Ser Ser Thr Ser Val Glu Ile Pro
1490 1495 1500

Ala Thr Ser Glu Ile Met Thr Asp Thr Glu Lys Ile His Pro Ser
1505 1510 1515

Ser Asn Thr Ala Val Ala Lys Val Arg Thr Ser Ser Ser Val His
1520 1525 1530

Glu Ser His Ser Ser Val Leu Ala Asp Ser Glu Thr Thr Ile Thr
1535 1540 1545

Ile Pro Ser Met Gly Ile Thr Ser Ala Val Glu Asp Thr Thr Val
1550 1555 1560

Phe Thr Ser Asn Pro Ala Phe Ser Glu Thr Arg Arg Ile Pro Thr
1565 1570 1575

Glu Pro Thr Phe Ser Leu Thr Pro Gly Phe Arg Glu Thr Ser Thr
1580 1585 1590

Ser Glu Glu Thr Thr Ser Ile Thr Glu Thr Ser Ala Val Leu Phe
1595 1600 1605

Gly Val Pro Thr Ser Ala Thr Thr Glu Val Ser Met Thr Glu Ile
1610 1615 1620

Met Ser Ser Asn Arg Thr His Ile Pro Asp Ser Asp Gln Ser Thr
1625 1630 1635

Met Ser Pro Asp Ile Ile Thr Glu Val Ile Thr Arg Leu Ser Ser
1640 1645 1650

Ser Ser Met Met Ser Glu Ser Thr Gln Met Thr Ile Thr Thr Gln
1655 1660 1665

Lys Ser Ser Pro Gly Ala Thr Ala Gln Ser Thr Leu Thr Leu Ala
1670 1675 1680

Thr Thr Thr Ala Pro Leu Ala Arg Thr His Ser Thr Val Pro Pro
1685 1690 1695

Arg Phe Leu His Ser Glu Met Thr Thr Leu Met Ser Arg Ser Pro
1700 1705 1710

Glu Asn Pro Ser Trp Lys Ser Ser Pro Phe Val Glu Lys Thr Ser
1715 1720 1725

Ser Ser Ser Ser Leu Leu Ser Leu Pro Val Thr Thr Ser Pro Ser

1730 1735 1740

Val Ser Ser Thr Leu Pro Gln Ser Ile Pro Ser Ser Ser Phe Ser
1745 1750 1755

Val Thr Ser Leu Leu Thr Pro Gly Met Val Lys Thr Thr Asp Thr
1760 1765 1770

Ser Thr Glu Pro Gly Thr Ser Leu Ser Pro Asn Leu Ser Gly Thr
1775 1780 1785

Ser Val Glu Ile Leu Ala Ala Ser Glu Val Thr Thr Asp Thr Glu
1790 1795 1800

Lys Ile His Pro Ser Ser Ser Met Ala Val Thr Asn Val Gly Thr
1805 1810 1815

Thr Ser Ser Gly His Glu Leu Tyr Ser Ser Val Ser Ile His Ser
1820 1825 1830

Glu Pro Ser Lys Ala Thr Tyr Pro Val Gly Thr Pro Ser Ser Met
1835 1840 1845

Ala Glu Thr Ser Ile Ser Thr Ser Met Pro Ala Asn Phe Glu Thr
1850 1855 1860

Thr Gly Phe Glu Ala Glu Pro Phe Ser His Leu Thr Ser Gly Leu
1865 1870 1875

Arg Lys Thr Asn Met Ser Leu Asp Thr Ser Ser Val Thr Pro Thr
1880 1885 1890

Asn Thr Pro Ser Ser Pro Gly Ser Thr His Leu Leu Gln Ser Ser
1895 1900 1905

Lys Thr Asp Phe Thr Ser Ser Ala Lys Thr Ser Ser Pro Asp Trp
1910 1915 1920

Pro Pro Ala Ser Gln Tyr Thr Glu Ile Pro Val Asp Ile Ile Thr
1925 1930 1935

Pro Phe Asn Ala Ser Pro Ser Ile Thr Glu Ser Thr Gly Ile Thr
1940 1945 1950

Ser Phe Pro Glu Ser Arg Phe Thr Met Ser Val Thr Glu Ser Thr
1955 1960 1965

His His Leu Ser Thr Asp Leu Leu Pro Ser Ala Glu Thr Ile Ser
1970 1975 1980

Thr Gly Thr Val Met Pro Ser Leu Ser Glu Ala Met Thr Ser Phe
1985 1990 1995

Ala Thr Thr Gly Val Pro Arg Ala Ile Ser Gly Ser Gly Ser Pro
2000 2005 2010

Phe Ser Arg Thr Glu Ser Gly Pro Gly Asp Ala Thr Leu Ser Thr
2015 2020 2025

Ile Ala Glu Ser Leu Pro Ser Ser Thr Pro Val Pro Phe Ser Ser
2030 2035 2040

Ser Thr Phe Thr Thr Thr Asp Ser Ser Thr Ile Pro Ala Leu His
2045 2050 2055

Glu Ile Thr Ser Ser Ser Ala Thr Pro Tyr Arg Val Asp Thr Ser
2060 2065 2070

Leu Gly Thr Glu Ser Ser Thr Thr Glu Gly Arg Leu Val Met Val
2075 2080 2085

Ser Thr Leu Asp Thr Ser Ser Gln Pro Gly Arg Thr Ser Ser Ser
2090 2095 2100

Pro Ile Leu Asp Thr Arg Met Thr Glu Ser Val Glu Leu Gly Thr
2105 2110 2115

Val Thr Ser Ala Tyr Gln Val Pro Ser Leu Ser Thr Arg Leu Thr
2120 2125 2130

Arg Thr Asp Gly Ile Met Glu His Ile Thr Lys Ile Pro Asn Glu
2135 2140 2145

Ala Ala His Arg Gly Thr Ile Arg Pro Val Lys Gly Pro Gln Thr
2150 2155 2160

Ser Thr Ser Pro Ala Ser Pro Lys Gly Leu His Thr Gly Gly Thr
2165 2170 2175

Lys Arg Met Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Thr
2180 2185 2190

Ala Leu Lys Thr Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr
2195 2200 2205

Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu Asn Ala Ser Met Gln
2210 2215 2220

Met Ala Ser Thr Ile Pro Thr Glu Met Met Ile Thr Thr Pro Tyr
2225 2230 2235

Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu Ala Thr Ser
2240 2245 2250

Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr Pro Ser
2255 2260 2265

Val Phe Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser Arg
2270 2275 2280

Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser
2285 2290 2295

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala
2300 2305 2310

Glu Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His
2315 2320 2325

Ser Glu Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala
2330 2335 2340

Asp Val Ser Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu
2345 2350 2355

Asp Ala Leu Thr Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser
2360 2365 2370

Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro His Glu Thr Glu Thr
2375 2380 2385

Arg Thr Thr Trp Leu Thr His Pro Ala Glu Thr Ser Ser Thr Ile
2390 2395 2400

Pro Arg Thr Ile Pro Asn Phe Ser His His Glu Ser Asp Ala Thr
2405 2410 2415

Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser Ala Ile
2420 2425 2430

Pro Ile Met Thr Val Ser Pro Gly Ala Glu Asp Leu Val Thr Ser
2435 2440 2445

Gln Val Thr Ser Ser Gly Thr Asp Arg Asn Met Thr Ile Pro Thr
2450 2455 2460

Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val
2465 2470 2475

Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro Thr Ser Thr
2480 2485 2490

Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val Thr Ser
2495 2500 2505

Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser
2510 2515 2520

Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Ser Ala
2525 2530 2535

Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His
2540 2545 2550

Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala
2555 2560 2565

Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val
2570 2575 2580

Pro Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile
2585 2590 2595

Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu
2600 2605 2610

Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser
2615 2620 2625

Ala Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val
2630 2635 2640

Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile

2645 2650 2655

Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser
2660 2665 2670

Met Ala Thr Ser His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr
2675 2680 2685

Val Leu Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Ala Ser
2690 2695 2700

Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser
2705 2710 2715

Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly
2720 2725 2730

Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro
2735 2740 2745

Gly Val Val Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn Ser
2750 2755 2760

Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr
2765 2770 2775

Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala
2780 2785 2790

Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr
2795 2800 2805

Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro
2810 2815 2820

Ile Leu Thr Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met
2825 2830 2835

Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val
2840 2845 2850

Ser Pro Glu Val Pro Gly Met Val Thr Phe Leu Val Thr Ser Ser
2855 2860 2865

Arg Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser
2870 2875 2880

Asp Glu Pro Glu Thr Thr Thr Ser Leu Val Thr His Ser Glu Ala
2885 2890 2895

Lys Met Ile Ser Ala Ile Pro Thr Leu Gly Val Ser Pro Thr Val
2900 2905 2910

Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr
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Thr Thr Thr Ile Ser Pro Asp Met Ser Asp Leu Val Thr Ser Leu
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Val Pro Ser Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu
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His Pro Ala Glu Thr Ser Thr Thr Val Ser Gly Thr Ile Pro Asn
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Pro Ser Ile Pro Gly Val Val Thr Ser Gln Val Thr Ser Ser Ala
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Thr Asp Thr Ser Thr Ala Ile Pro Thr Leu Thr Pro Ser Pro Gly
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Glu Pro Glu Thr Thr Ala Ser Ser Ala Thr His Pro Gly Thr Gln
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Gly Thr Thr Met Thr Leu Ile Pro Ser Glu Met Pro Thr Pro Pro
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Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg
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Lys Asp Ser Ser Ala Thr Ala Val Asp Ala Ile Cys Thr His Arg
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35 40 45

Ala Pro Leu Asp Gly Val Leu Ala Asn Pro Pro Asn Ile Ser Ser
50 55 60

Leu Ser Pro Arg Gln Leu Leu Gly Phe Pro Cys Ala Glu Val Ser
65 70 75

Gly Leu Ser Thr Glu Arg Val Arg Glu Leu Ala Val Ala Leu Ala
80 85 90

Gln Lys Asn Val Lys Leu Ser Thr Glu Gln Leu Arg Cys Leu Ala
95 100 105

His Arg Leu Ser Glu Pro Pro Glu Asp Leu Asp Ala Leu Pro Leu
110 115 120

Asp Leu Leu Leu Phe Leu Asn Pro Asp Ala Phe Ser Gly Pro Gln
125 130 135

Ala Cys Thr Arg Phe Phe Ser Arg Ile Thr Lys Ala Asn Val Asp
140 145 150

Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln Arg Leu Leu Pro Ala
155 160 165

Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu Leu Ser Glu Ala
170 175 180

Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu Pro Gly Arg

185 190 195

Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu Val Ser
200 205 210

Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg Ala
215 220 225

Ala Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp
230 235 240

Ser Val Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu
245 250 255

Gly Gln Pro Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala
260 265 270

Trp Arg Gln Arg Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu
275 280 285

Arg Thr Ile Leu Arg Pro Arg Phe Arg Arg Glu Val Glu Lys Thr
290 295 300

Ala Cys Pro Ser Gly Lys Lys Ala Arg Glu Ile Asp Glu Ser Leu
305 310 315

Ile Phe Tyr Lys Lys Trp Glu Leu Glu Ala Cys Val Asp Ala Ala
320 325 330

Leu Leu Ala Thr Gln Met Asp Arg Val Asn Ala Ile Pro Phe Thr
335 340 345

Tyr Glu Gln Leu Asp Val Leu Lys His Lys Leu Asp Glu Leu Tyr
350 355 360

Pro Gln Gly Tyr Pro Glu Ser Val Ile Gln His Leu Gly Tyr Leu
365 370 375

Phe Leu Lys Met Ser Pro Glu Asp Ile Arg Lys Trp Asn Val Thr
380 385 390

Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu Val Asn Lys Gly His
395 400 405

Glu Met Ser Pro Gln Val Ala Thr Leu Ile Asp Arg Phe Val Lys
410 415 420

Gly Arg Gly Gln Leu Asp Lys Asp Thr Leu Asp Thr Leu Thr Ala
425 430 435

Phe Tyr Pro Gly Tyr Leu Cys Ser Leu Ser Pro Glu Glu Leu Ser
440 445 450

Ser Val Pro Pro Ser Ser Ile Trp Ala Val Arg Pro Gln Asp Leu
455 460 465

Asp Thr Cys Asp Pro Arg Gln Leu Asp Val Leu Tyr Pro Lys Ala
470 475 480

Arg Leu Ala Phe Gln Asn Met Asn Gly Ser Glu Tyr Phe Val Lys
485 490 495

Ile Gln Ser Phe Leu Gly Gly Ala Pro Thr Glu Asp Leu Lys Ala
500 505 510

Leu Ser Gln Gln Asn Val Ser Met Asp Leu Ala Thr Phe Met Lys
515 520 525

Leu Arg Thr Asp Ala Val Leu Pro Leu Thr Val Ala Glu Val Gln
530 535 540

Lys Leu Leu Gly Pro His Val Glu Gly Leu Lys Ala Glu Glu Arg
545 550 555

His Arg Pro Val Arg Asp Trp Ile Leu Arg Gln Arg Gln Asp Asp
560 565 570

Leu Asp Thr Leu Gly Leu Gly Leu Gln Gly Gly Ile Pro Asn Gly
575 580 585

Tyr Leu Val Leu Asp Leu Ser Met Gln Glu Ala Leu Ser Gly Thr
590 595 600

Pro Cys Leu Leu Gly Pro Gly Pro Val Leu Thr Val Leu Ala Leu
605 610 615

Leu Leu Ala Ser Thr Leu Ala
620

<210> 6
<211> 690
<212> PRT
<213> Homo sapien

<400> 6
Met Ala Pro Trp Pro Glu Leu Gly Asp Ala Gln Pro Asn Pro Asp
1 5 10 15

Lys Tyr Leu Glu Gly Ala Ala Gly Gln Gln Pro Thr Ala Pro Asp
20 25 30

Lys Ser Lys Glu Thr Asn Lys Thr Asp Asn Thr Glu Ala Pro Val
35 40 45

Thr Lys Ile Glu Leu Leu Pro Ser Tyr Ser Thr Ala Thr Leu Ile
50 55 60

Asp Glu Pro Thr Glu Val Asp Asp Pro Trp Asn Leu Pro Thr Leu
65 70 75

Gln Asp Ser Gly Ile Lys Trp Ser Glu Arg Asp Thr Lys Gly Lys
80 85 90

Ile Leu Cys Phe Phe Gln Gly Ile Gly Arg Leu Ile Leu Leu Leu
95 100 105

Gly Phe Leu Tyr Phe Phe Val Cys Ser Leu Asp Ile Leu Ser Ser
110 115 120

Ala Phe Gln Leu Val Gly Gly Lys Met Ala Gly Gln Phe Phe Ser
125 130 135

Asn Ser Ser Ile Met Ser Asn Pro Leu Leu Gly Leu Val Ile Gly
140 145 150

Val Leu Val Thr Val Leu Val Gln Ser Ser Ser Thr Ser Thr Ser
155 160 165

Ile Val Val Ser Met Val Ser Ser Ser Leu Leu Thr Val Arg Ala
170 175 180

Ala Ile Pro Ile Ile Met Gly Ala Asn Ile Gly Thr Ser Ile Thr
185 190 195

Asn Thr Ile Val Ala Leu Met Gln Val Gly Asp Arg Ser Glu Phe
200 205 210

Arg Arg Ala Phe Ala Gly Ala Thr Val His Asp Phe Phe Asn Trp
215 220 225

Leu Ser Val Leu Val Leu Leu Pro Val Glu Val Ala Thr His Tyr
230 235 240

Leu Glu Ile Ile Thr Gln Leu Ile Val Glu Ser Phe His Phe Lys
245 250 255

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

Phe Thr Lys Leu Ile Val Gln Leu Asp Lys Lys Val Ile Ser Gln
275 280 285

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

Ile Trp Cys Lys Thr Phe Thr Asn Lys Thr Gln Ile Asn Val Thr
305 310 315

Val Pro Ser Thr Ala Asn Cys Thr Ser Pro Ser Leu Cys Trp Thr
320 325 330

Asp Gly Ile Gln Asn Trp Thr Met Lys Asn Val Thr Tyr Lys Glu
335 340 345

Asn Ile Ala Lys Cys Gln His Ile Phe Val Asn Phe His Leu Pro
350 355 360

Asp Leu Ala Val Gly Thr Ile Leu Leu Ile Leu Ser Leu Leu Val
365 370 375

Leu Cys Gly Cys Leu Ile Met Ile Val Lys Ile Leu Gly Ser Val
380 385 390

Leu Lys Gly Gln Val Ala Thr Val Ile Lys Lys Thr Ile Asn Thr
395 400 405

Asp Phe Pro Phe Pro Phe Ala Trp Leu Thr Gly Tyr Leu Ala Ile
410 415 420

Leu Val Gly Ala Gly Met Thr Phe Ile Val Gln Ser Ser Ser Val
425 430 435

Phe Thr Ser Ala Leu Thr Pro Leu Ile Gly Ile Gly Val Ile Thr

```
                440                 445                 450

Ile Glu Arg Ala Tyr Pro Leu Thr Leu Gly Ser Asn Ile Gly Thr
                455                 460                 465

Thr Thr Thr Ala Ile Leu Ala Ala Leu Ala Ser Pro Gly Asn Ala
                470                 475                 480

Leu Arg Ser Ser Leu Gln Ile Ala Leu Cys His Phe Phe Phe Asn
                485                 490                 495

Ile Ser Gly Ile Leu Leu Trp Tyr Pro Ile Pro Phe Thr Arg Leu
                500                 505                 510

Pro Ile Arg Met Ala Lys Gly Leu Gly Asn Ile Ser Ala Lys Tyr
                515                 520                 525

Arg Trp Phe Ala Val Phe Tyr Leu Ile Ile Phe Phe Phe Leu Ile
                530                 535                 540

Pro Leu Thr Val Phe Gly Leu Ser Leu Ala Gly Trp Arg Val Leu
                545                 550                 555

Val Gly Val Gly Val Pro Val Val Phe Ile Ile Ile Leu Val Leu
                560                 565                 570

Cys Leu Arg Leu Leu Gln Ser Arg Cys Pro Arg Val Leu Pro Lys
                575                 580                 585

Lys Leu Gln Asn Trp Asn Phe Leu Pro Leu Trp Met Arg Ser Leu
                590                 595                 600

Lys Pro Trp Asp Ala Val Val Ser Lys Phe Thr Gly Cys Phe Gln
                605                 610                 615

Met Arg Cys Cys Tyr Cys Cys Arg Val Cys Cys Arg Ala Cys Cys
                620                 625                 630

Leu Leu Cys Gly Cys Pro Lys Cys Cys Arg Cys Ser Lys Cys Cys
                635                 640                 645

Glu Asp Leu Glu Glu Ala Gln Glu Gly Gln Asp Val Pro Val Lys
                650                 655                 660

Ala Pro Glu Thr Phe Asp Asn Ile Thr Ile Ser Arg Glu Ala Gln
                665                 670                 675

Gly Glu Val Pro Ala Ser Asp Ser Lys Thr Glu Cys Thr Ala Leu
                680                 685                 690
```

<210> 7
<211> 1093
<212> PRT
<213> Homo sapien

<400> 7

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

 Leu Thr Leu Leu Val Ser His Leu Ser Ser Ser Gln Asp Val Ser
                20                  25                  30
```

```
Ser Glu Pro Ser Ser Glu Gln Gln Leu Cys Ala Leu Ser Lys His
                35                  40                  45

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

Thr Tyr Pro Gly Ala Arg Asp Phe Ser Gln Leu Ala Leu Asp Pro
        65                  70                  75

Ser Gly Asn Gln Leu Ile Val Gly Ala Arg Asn Tyr Leu Phe Arg
    80                  85                  90

Leu Ser Leu Ala Asn Val Ser Leu Leu Gln Ala Thr Glu Trp Ala
95                  100                 105

Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly Lys Thr
            110                 115                 120

Glu Glu Glu Cys Gln Asn Tyr Val Arg Val Leu Ile Val Ala Gly
        125                 130                 135

Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys
    140                 145                 150

Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu Lys Ile
155                 160                 165

Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser Thr
            170                 175                 180

Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile
        185                 190                 195

Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser
    200                 205                 210

Gly Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn
215                 220                 225

Glu Pro Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr
            230                 235                 240

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

Val Tyr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly
    260                 265                 270

Arg Phe Leu Leu Glu Asp Thr Trp Thr Thr Phe Met Lys Ala Arg
275                 280                 285

Leu Asn Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu
            290                 295                 300

Leu Gln Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly
        305                 310                 315

Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val Cys
    320                 325                 330
```

Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe
335 340 345

Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn
350 355 360

Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro
365 370 375

Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu
380 385 390

Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys
395 400 405

Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu
410 415 420

Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr
425 430 435

Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser
440 445 450

Leu His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly
455 460 465

Arg Arg Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg
470 475 480

Ala Leu Phe Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu
485 490 495

Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala
500 505 510

Arg Asp Pro Tyr Cys Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser
515 520 525

Thr Leu Glu Asp Ser Ser Asn Met Ser Leu Trp Thr Gln Asn Ile
530 535 540

Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly
545 550 555

Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn
560 565 570

Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg
575 580 585

Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile
590 595 600

Ala Asn Cys Ser Arg Asn Gly Ala Trp Thr Pro Trp Ser Ser Trp
605 610 615

Ala Leu Cys Ser Thr Ser Cys Gly Ile Gly Phe Gln Val Arg Gln
620 625 630

Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys

635 640 645

Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro
650 655 660

Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys
665 670 675

Cys Ser Ser Asn Cys Gly Gly Gly Met Gln Ser Arg Arg Arg Ala
680 685 690

Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys
695 700 705

Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro
710 715 720

Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg
725 730 735

Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp
740 745 750

Pro His Gly Leu Gln Phe Gly Arg Arg Arg Thr Glu Thr Arg Thr
755 760 765

Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val
770 775 780

Glu Asp Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser
785 790 795

Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp
800 805 810

Cys Glu Leu Gly Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro
815 820 825

Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala Glu
830 835 840

Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp
845 850 855

Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys Gly Gly
860 865 870

Gly His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro Ala Pro Ser
875 880 885

Pro Gly Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu Ala Leu
890 895 900

Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp Ser Glu
905 910 915

Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser Arg Ser Arg His
920 925 930

Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala Gly Asn Ser
935 940 945

```
Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Pro Val Ile Leu
                950                 955                 960

Pro Ala Ser Ser Met Glu Glu Ala Thr Gly Cys Ala Gly Phe Asn
                965                 970                 975

Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu Gly Ser
                980                 985                 990

Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His Cys Gln
                995                1000                1005

Arg Gln Ser Gln Glu Ser Thr Leu Val His Pro Ala Thr Pro Asn
               1010                1015                1020

His Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu Lys Tyr
               1025                1030                1035

Thr Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu Ile Pro
               1040                1045                1050

Asp Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn Val Tyr
               1055                1060                1065

Thr Thr Thr Tyr Tyr Pro Ser Pro Leu Asn Lys His Ser Phe Arg
               1070                1075                1080

Pro Glu Ala Ser Pro Gly Gln Arg Cys Phe Pro Asn Ser
               1085                1090

<210> 8
<211> 141
<212> PRT
<213> Homo sapien

<400> 8
 Met Trp Val Leu Gly Ile Ala Ala Thr Phe Cys Gly Leu Phe Leu
   1               5                  10                  15

 Leu Pro Gly Phe Ala Leu Gln Ile Gln Cys Tyr Gln Cys Glu Glu
                20                  25                  30

 Phe Gln Leu Asn Asn Asp Cys Ser Ser Pro Glu Phe Ile Val Asn
                35                  40                  45

 Cys Thr Val Asn Val Gln Asp Met Cys Gln Lys Glu Val Met Glu
                50                  55                  60

 Gln Ser Ala Gly Ile Met Tyr Arg Lys Ser Cys Ala Ser Ser Ala
                65                  70                  75

 Ala Cys Leu Ile Ala Ser Ala Gly Tyr Gln Ser Phe Cys Ser Pro
                80                  85                  90

 Gly Lys Leu Asn Ser Val Cys Ile Ser Cys Cys Asn Thr Pro Leu
                95                 100                 105

 Cys Asn Gly Pro Arg Pro Lys Lys Arg Gly Ser Ser Ala Ser Ala
               110                 115                 120
```

Leu Arg Pro Gly Leu Arg Thr Thr Ile Leu Phe Leu Lys Leu Ala
125 130 135

Leu Phe Ser Ala His Cys
140

<210> 9
<211> 442
<212> PRT
<213> Homo sapien

<400> 9
Met Gln Pro Pro Pro Ser Leu Cys Gly Arg Ala Leu Val Ala Leu
1 5 10 15

Val Leu Ala Cys Gly Leu Ser Arg Ile Trp Gly Glu Glu Arg Gly
20 25 30

Phe Pro Pro Asp Arg Ala Thr Pro Leu Leu Gln Thr Ala Glu Ile
35 40 45

Met Thr Pro Pro Thr Lys Thr Leu Trp Pro Lys Gly Ser Asn Ala
50 55 60

Ser Leu Ala Arg Ser Leu Ala Pro Ala Glu Val Pro Lys Gly Asp
65 70 75

Arg Thr Ala Gly Ser Pro Pro Arg Thr Ile Ser Pro Pro Pro Cys
80 85 90

Gln Gly Pro Ile Glu Ile Lys Glu Thr Phe Lys Tyr Ile Asn Thr
95 100 105

Val Val Ser Cys Leu Val Phe Val Leu Gly Ile Ile Gly Asn Ser
110 115 120

Thr Leu Leu Arg Ile Ile Tyr Lys Asn Lys Cys Met Arg Asn Gly
125 130 135

Pro Asn Ile Leu Ile Ala Ser Leu Ala Leu Gly Asp Leu Leu His
140 145 150

Ile Val Ile Asp Ile Pro Ile Asn Val Tyr Lys Leu Leu Ala Glu
155 160 165

Asp Trp Pro Phe Gly Ala Glu Met Cys Lys Leu Val Pro Phe Ile
170 175 180

Gln Lys Ala Ser Val Gly Ile Thr Val Leu Ser Leu Cys Ala Leu
185 190 195

Ser Ile Asp Arg Tyr Arg Ala Val Ala Ser Trp Ser Arg Ile Lys
200 205 210

Gly Ile Gly Val Pro Lys Trp Thr Ala Val Glu Ile Val Leu Ile
215 220 225

Trp Val Val Ser Val Val Leu Ala Val Pro Glu Ala Ile Gly Phe
230 235 240

Asp Ile Ile Thr Met Asp Tyr Lys Gly Ser Tyr Leu Arg Ile Cys

245 250 255

Leu Leu His Pro Val Gln Lys Thr Ala Phe Met Gln Phe Tyr Lys
260 265 270

Thr Ala Lys Asp Trp Trp Leu Phe Ser Phe Tyr Phe Cys Leu Pro
275 280 285

Leu Ala Ile Thr Ala Phe Phe Tyr Thr Leu Met Thr Cys Glu Met
290 295 300

Leu Arg Lys Lys Ser Gly Met Gln Ile Ala Leu Asn Asp His Leu
305 310 315

Lys Gln Arg Arg Glu Val Ala Lys Thr Val Phe Cys Leu Val Leu
320 325 330

Val Phe Ala Leu Cys Trp Leu Pro Leu His Leu Ser Arg Ile Leu
335 340 345

Lys Leu Thr Leu Tyr Asn Gln Asn Asp Pro Asn Arg Cys Glu Leu
350 355 360

Leu Ser Phe Leu Leu Val Leu Asp Tyr Ile Gly Ile Asn Met Ala
365 370 375

Ser Leu Asn Ser Cys Ile Asn Pro Ile Ala Leu Tyr Leu Val Ser
380 385 390

Lys Arg Phe Lys Asn Cys Phe Lys Ser Cys Leu Cys Cys Trp Cys
395 400 405

Gln Ser Phe Glu Glu Lys Gln Ser Leu Glu Glu Lys Gln Ser Cys
410 415 420

Leu Lys Phe Lys Ala Asn Asp His Gly Tyr Asp Asn Phe Arg Ser
425 430 435

Ser Asn Lys Tyr Ser Ser Ser
440

<210> 10
<211> 783
<212> PRT
<213> Homo sapien

<400> 10
Met Ser Gly Gly His Gln Leu Gln Leu Ala Ala Leu Trp Pro Trp
1 5 10 15

Leu Leu Met Ala Thr Leu Gln Ala Gly Phe Gly Arg Thr Gly Leu
20 25 30

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

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

Leu Asn Leu Thr Leu Glu Gly Val Phe Ala Gly Val Ala Glu Ile
65 70 75

```
Thr Pro Ala Glu Gly Lys Leu Met Gln Ser His Pro Leu Tyr Leu
                 80                  85                  90

Cys Asn Ala Ser Asp Asp Asp Asn Leu Glu Pro Gly Phe Ile Ser
                 95                 100                 105

Ile Val Lys Leu Glu Ser Pro Arg Arg Ala Pro Arg Pro Cys Leu
                110                 115                 120

Ser Leu Ala Ser Lys Ala Arg Met Ala Gly Glu Arg Gly Ala Ser
                125                 130                 135

Ala Val Leu Phe Asp Ile Thr Glu Asp Arg Ala Ala Ala Glu Gln
                140                 145                 150

Leu Gln Gln Pro Leu Gly Leu Thr Trp Pro Val Val Leu Ile Trp
                155                 160                 165

Gly Asn Asp Ala Glu Lys Leu Met Glu Phe Val Tyr Lys Asn Gln
                170                 175                 180

Lys Ala His Val Arg Ile Glu Leu Lys Glu Pro Pro Ala Trp Pro
                185                 190                 195

Asp Tyr Asp Val Trp Ile Leu Met Thr Val Val Gly Thr Ile Phe
                200                 205                 210

Val Ile Ile Leu Ala Ser Val Leu Arg Ile Arg Cys Arg Pro Arg
                215                 220                 225

His Ser Arg Pro Asp Pro Leu Gln Gln Arg Thr Ala Trp Ala Ile
                230                 235                 240

Ser Gln Leu Ala Thr Arg Arg Tyr Gln Ala Ser Cys Arg Gln Ala
                245                 250                 255

Arg Gly Glu Trp Pro Asp Ser Gly Ser Ser Cys Ser Ser Ala Pro
                260                 265                 270

Val Cys Ala Ile Cys Leu Glu Glu Phe Ser Glu Gly Gln Glu Leu
                275                 280                 285

Arg Val Ile Ser Cys Leu His Glu Phe His Arg Asn Cys Val Asp
                290                 295                 300

Pro Trp Leu His Gln His Arg Thr Cys Pro Leu Cys Val Phe Asn
                305                 310                 315

Ile Thr Glu Gly Asp Ser Phe Ser Gln Ser Leu Gly Pro Ser Arg
                320                 325                 330

Ser Tyr Gln Glu Pro Gly Arg Arg Leu His Leu Ile Arg Gln His
                335                 340                 345

Pro Gly His Ala His Tyr His Leu Pro Ala Ala Tyr Leu Leu Gly
                350                 355                 360

Pro Ser Arg Ser Ala Val Ala Arg Pro Pro Arg Pro Gly Pro Phe
                365                 370                 375
```

Leu Pro Ser Gln Glu Pro Gly Met Gly Pro Arg His His Arg Phe
380 385 390

Pro Arg Ala Ala His Pro Arg Ala Pro Gly Glu Gln Gln Arg Leu
395 400 405

Ala Gly Ala Gln His Pro Tyr Ala Gln Gly Trp Gly Met Ser His
410 415 420

Leu Gln Ser Thr Ser Gln His Pro Ala Ala Cys Pro Val Pro Leu
425 430 435

Arg Arg Ala Arg Pro Pro Asp Ser Ser Gly Ser Gly Glu Ser Tyr
440 445 450

Cys Thr Glu Arg Ser Gly Tyr Leu Ala Asp Gly Pro Ala Ser Asp
455 460 465

Ser Ser Ser Gly Pro Cys His Gly Ser Ser Ser Asp Ser Val Val
470 475 480

Asn Cys Thr Asp Ile Ser Leu Gln Gly Val His Gly Ser Ser Ser
485 490 495

Thr Phe Cys Ser Ser Leu Ser Ser Asp Phe Asp Pro Leu Val Tyr
500 505 510

Cys Ser Pro Lys Gly Asp Pro Gln Arg Val Asp Met Gln Pro Ser
515 520 525

Val Thr Ser Arg Pro Arg Ser Leu Asp Ser Val Val Pro Thr Gly
530 535 540

Glu Thr Gln Val Ser Ser His Val His Tyr His Arg His Arg His
545 550 555

His His Tyr Lys Lys Arg Phe Gln Trp His Gly Arg Lys Pro Gly
560 565 570

Pro Glu Thr Gly Val Pro Gln Ser Arg Pro Pro Ile Pro Arg Thr
575 580 585

Gln Pro Gln Pro Glu Pro Pro Ser Pro Asp Gln Gln Val Thr Gly
590 595 600

Ser Asn Ser Ala Ala Pro Ser Gly Arg Leu Ser Asn Pro Gln Cys
605 610 615

Pro Arg Ala Leu Pro Glu Pro Ala Pro Gly Pro Val Asp Ala Ser
620 625 630

Ser Ile Cys Pro Ser Thr Ser Ser Leu Phe Asn Leu Gln Lys Ser
635 640 645

Ser Leu Ser Ala Arg His Pro Gln Arg Lys Arg Arg Gly Gly Pro
650 655 660

Ser Glu Pro Thr Pro Gly Ser Arg Pro Gln Asp Ala Thr Val His
665 670 675

Pro Ala Cys Gln Ile Phe Pro His Tyr Thr Pro Ser Val Ala Tyr

680 685 690

Pro Trp Ser Pro Glu Ala His Pro Leu Ile Cys Gly Pro Pro Gly
695 700 705

Leu Asp Lys Arg Leu Leu Pro Glu Thr Pro Gly Pro Cys Tyr Ser
710 715 720

Asn Ser Gln Pro Val Trp Leu Cys Leu Thr Pro Arg Gln Pro Leu
725 730 735

Glu Pro His Pro Pro Gly Glu Gly Pro Ser Glu Trp Ser Ser Asp
740 745 750

Thr Ala Glu Gly Arg Pro Cys Pro Tyr Pro His Cys Gln Val Leu
755 760 765

Ser Ala Gln Pro Gly Ser Glu Glu Glu Leu Glu Glu Leu Cys Glu
770 775 780

Gln Ala Val

<210> 11
<211> 490
<212> PRT
<213> Homo sapien

<400> 11
Met Glu Ser Ile Ser Met Met Gly Ser Pro Lys Ser Leu Ser Glu
1 5 10 15

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

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

Thr Ile Arg Leu Ile Arg Cys Gly Tyr His Val Val Ile Gly Ser
50 55 60

Arg Asn Pro Lys Phe Ala Ser Glu Phe Phe Pro His Val Val Asp
65 70 75

Val Thr His His Glu Asp Ala Leu Thr Lys Thr Asn Ile Ile Phe
80 85 90

Val Ala Ile His Arg Glu His Tyr Thr Ser Leu Trp Asp Leu Arg
95 100 105

His Leu Leu Val Gly Lys Ile Leu Ile Asp Val Ser Asn Asn Met
110 115 120

Arg Ile Asn Gln Tyr Pro Glu Ser Asn Ala Glu Tyr Leu Ala Ser
125 130 135

Leu Phe Pro Asp Ser Leu Ile Val Lys Gly Phe Asn Val Val Ser
140 145 150

Ala Trp Ala Leu Gln Leu Gly Pro Lys Asp Ala Ser Arg Gln Val
155 160 165

Tyr Ile Cys Ser Asn Asn Ile Gln Ala Arg Gln Gln Val Ile Glu
170 175 180

Leu Ala Arg Gln Leu Asn Phe Ile Pro Ile Asp Leu Gly Ser Leu
185 190 195

Ser Ser Ala Arg Glu Ile Glu Asn Leu Pro Leu Arg Leu Phe Thr
200 205 210

Leu Trp Arg Gly Pro Val Val Val Ala Ile Ser Leu Ala Thr Phe
215 220 225

Phe Phe Leu Tyr Ser Phe Val Arg Asp Val Ile His Pro Tyr Ala
230 235 240

Arg Asn Gln Gln Ser Asp Phe Tyr Lys Ile Pro Ile Glu Ile Val
245 250 255

Asn Lys Thr Leu Pro Ile Val Ala Ile Thr Leu Leu Ser Leu Val
260 265 270

Tyr Leu Ala Gly Leu Leu Ala Ala Ala Tyr Gln Leu Tyr Tyr Gly
275 280 285

Thr Lys Tyr Arg Arg Phe Pro Pro Trp Leu Glu Thr Trp Leu Gln
290 295 300

Cys Arg Lys Gln Leu Gly Leu Leu Ser Phe Phe Phe Ala Met Val
305 310 315

His Val Ala Tyr Ser Leu Cys Leu Pro Met Arg Arg Ser Glu Arg
320 325 330

Tyr Leu Phe Leu Asn Met Ala Tyr Gln Gln Val His Ala Asn Ile
335 340 345

Glu Asn Ser Trp Asn Glu Glu Glu Val Trp Arg Ile Glu Met Tyr
350 355 360

Ile Ser Phe Gly Ile Met Ser Leu Gly Leu Leu Ser Leu Leu Ala
365 370 375

Val Thr Ser Ile Pro Ser Val Ser Asn Ala Leu Asn Trp Arg Glu
380 385 390

Phe Ser Phe Ile Gln Ser Thr Leu Gly Tyr Val Ala Leu Leu Ile
395 400 405

Ser Thr Phe His Val Leu Ile Tyr Gly Trp Lys Arg Ala Phe Glu
410 415 420

Glu Glu Tyr Tyr Arg Phe Tyr Thr Pro Pro Asn Phe Val Leu Ala
425 430 435

Leu Val Leu Pro Ser Ile Val Ile Leu Gly Lys Ile Ile Leu Phe
440 445 450

Leu Pro Cys Ile Ser Gln Lys Leu Lys Arg Ile Lys Lys Gly Trp
455 460 465

```
Glu Lys Ser Gln Phe Leu Glu Glu Gly Ile Gly Gly Thr Ile Pro
                470                 475                 480

His Val Ser Pro Glu Arg Val Thr Val Met
                485                 490
```

<210> 12
<211> 1214
<212> PRT
<213> Homo sapien

<400> 12

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Met Val Val Pro Glu Lys Glu Gln Ser Trp Ile Pro Lys Ile Phe
  1               5                  10                  15

Lys Lys Lys Thr Cys Thr Thr Phe Ile Val Asp Ser Thr Asp Pro
            20                  25                  30

Gly Gly Thr Leu Cys Gln Cys Gly Arg Pro Arg Thr Ala His Pro
            35                  40                  45

Ala Val Ala Met Glu Asp Ala Phe Gly Ala Ala Val Val Thr Val
            50                  55                  60

Trp Asp Ser Asp Ala His Thr Thr Glu Lys Pro Thr Asp Ala Tyr
            65                  70                  75

Gly Glu Leu Asp Phe Thr Gly Ala Gly Arg Lys His Ser Asn Phe
            80                  85                  90

Leu Arg Leu Ser Asp Arg Thr Asp Pro Ala Ala Val Tyr Ser Leu
            95                  100                 105

Val Thr Arg Thr Trp Gly Phe Arg Ala Pro Asn Leu Val Val Ser
            110                 115                 120

Val Leu Gly Gly Ser Gly Gly Pro Val Leu Gln Thr Trp Leu Gln
            125                 130                 135

Asp Leu Leu Arg Arg Gly Leu Val Arg Ala Ala Gln Ser Thr Gly
            140                 145                 150

Ala Trp Ile Val Thr Gly Gly Leu His Thr Gly Ile Gly Arg His
            155                 160                 165

Val Gly Val Ala Val Arg Asp His Gln Met Ala Ser Thr Gly Gly
            170                 175                 180

Thr Lys Val Val Ala Met Gly Val Ala Pro Trp Gly Val Val Arg
            185                 190                 195

Asn Arg Asp Thr Leu Ile Asn Pro Lys Gly Ser Phe Pro Ala Arg
            200                 205                 210

Tyr Arg Trp Arg Gly Asp Pro Glu Asp Gly Val Gln Phe Pro Leu
            215                 220                 225

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

Gly Cys Leu Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu Ser
```

245 250 255

Tyr Ile Ser Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp
260 265 270

Ile Pro Val Leu Leu Leu Leu Ile Asp Gly Asp Glu Lys Met Leu
275 280 285

Thr Arg Ile Glu Asn Ala Thr Gln Ala Gln Leu Pro Cys Leu Leu
290 295 300

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

Glu Asp Thr Leu Ala Pro Gly Ser Gly Gly Ala Arg Gln Gly Glu
320 325 330

Ala Arg Asp Arg Ile Arg Arg Phe Phe Pro Lys Gly Asp Leu Glu
335 340 345

Val Leu Gln Ala Gln Val Glu Arg Ile Met Thr Arg Lys Glu Leu
350 355 360

Leu Thr Val Tyr Ser Ser Glu Asp Gly Ser Glu Glu Phe Glu Thr
365 370 375

Ile Val Leu Lys Ala Leu Val Lys Ala Cys Gly Ser Ser Glu Ala
380 385 390

Ser Ala Tyr Leu Asp Glu Leu Arg Leu Ala Val Ala Trp Asn Arg
395 400 405

Val Asp Ile Ala Gln Ser Glu Leu Phe Arg Gly Asp Ile Gln Trp
410 415 420

Arg Ser Phe His Leu Glu Ala Ser Leu Met Asp Ala Leu Leu Asn
425 430 435

Asp Arg Pro Glu Phe Val Arg Leu Leu Ile Ser His Gly Leu Ser
440 445 450

Leu Gly His Phe Leu Thr Pro Met Arg Leu Ala Gln Leu Tyr Ser
455 460 465

Ala Ala Pro Ser Asn Ser Leu Ile Arg Asn Leu Leu Asp Gln Ala
470 475 480

Ser His Ser Ala Gly Thr Lys Ala Pro Ala Leu Lys Gly Gly Ala
485 490 495

Ala Glu Leu Arg Pro Pro Asp Val Gly His Val Leu Arg Met Leu
500 505 510

Leu Gly Lys Met Cys Ala Pro Arg Tyr Pro Ser Gly Gly Ala Trp
515 520 525

Asp Pro His Pro Gly Gln Gly Phe Gly Glu Ser Met Tyr Leu Leu
530 535 540

Ser Asp Lys Ala Thr Ser Pro Leu Ser Leu Asp Ala Gly Leu Gly
545 550 555

Gln Ala Pro Trp Ser Asp Leu Leu Leu Trp Ala Leu Leu Leu Asn
560 565 570

Arg Ala Gln Met Ala Met Tyr Phe Trp Glu Met Gly Ser Asn Ala
575 580 585

Val Ser Ser Ala Leu Gly Ala Cys Leu Leu Leu Arg Val Met Ala
590 595 600

Arg Leu Glu Pro Asp Ala Glu Glu Ala Ala Arg Arg Lys Asp Leu
605 610 615

Ala Phe Lys Phe Glu Gly Met Gly Val Asp Leu Phe Gly Glu Cys
620 625 630

Tyr Arg Ser Ser Glu Val Arg Ala Ala Arg Leu Leu Leu Arg Arg
635 640 645

Cys Pro Leu Trp Gly Asp Ala Thr Cys Leu Gln Leu Ala Met Gln
650 655 660

Ala Asp Ala Arg Ala Phe Phe Ala Gln Asp Gly Val Gln Ser Leu
665 670 675

Leu Thr Gln Lys Trp Trp Gly Asp Met Ala Ser Thr Thr Pro Ile
680 685 690

Trp Ala Leu Val Leu Ala Phe Phe Cys Pro Pro Leu Ile Tyr Thr
695 700 705

Arg Leu Ile Thr Phe Arg Lys Ser Glu Glu Glu Pro Thr Arg Glu
710 715 720

Glu Leu Glu Phe Asp Met Asp Ser Val Ile Asn Gly Glu Gly Pro
725 730 735

Val Gly Thr Ala Asp Pro Ala Glu Lys Thr Pro Leu Gly Val Pro
740 745 750

Arg Gln Ser Gly Arg Pro Gly Cys Cys Gly Gly Arg Cys Gly Gly
755 760 765

Arg Arg Cys Leu Arg Arg Trp Phe His Phe Trp Gly Ala Pro Val
770 775 780

Thr Ile Phe Met Gly Asn Val Val Ser Tyr Leu Leu Phe Leu Leu
785 790 795

Leu Phe Ser Arg Val Leu Leu Val Asp Phe Gln Pro Ala Pro Pro
800 805 810

Gly Ser Leu Glu Leu Leu Leu Tyr Phe Trp Ala Phe Thr Leu Leu
815 820 825

Cys Glu Glu Leu Arg Gln Gly Leu Ser Gly Gly Gly Gly Ser Leu
830 835 840

Ala Ser Gly Gly Pro Gly Pro Gly His Ala Ser Leu Ser Gln Arg
845 850 855

Leu Arg Leu Tyr Leu Ala Asp Ser Trp Asn Gln Cys Asp Leu Val
860 865 870

Ala Leu Thr Cys Phe Leu Leu Gly Val Gly Cys Arg Leu Thr Pro
875 880 885

Gly Leu Tyr His Leu Gly Arg Thr Val Leu Cys Ile Asp Phe Met
890 895 900

Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln
905 910 915

Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val
920 925 930

Phe Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly
935 940 945

Val Ala Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro
950 955 960

Ser Ile Leu Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe
965 970 975

Gly Gln Ile Pro Gln Glu Asp Met Asp Val Ala Leu Met Glu His
980 985 990

Ser Asn Cys Ser Ser Glu Pro Gly Phe Trp Ala His Pro Pro Gly
995 1000 1005

Ala Gln Ala Gly Thr Cys Val Ser Gln Tyr Ala Asn Trp Leu Val
1010 1015 1020

Val Leu Leu Leu Val Ile Phe Leu Leu Val Ala Asn Ile Leu Leu
1025 1030 1035

Val Asn Leu Leu Ile Ala Met Phe Ser Tyr Thr Phe Gly Lys Val
1040 1045 1050

Gln Gly Asn Ser Asp Leu Tyr Trp Lys Ala Gln Arg Tyr Arg Leu
1055 1060 1065

Ile Arg Glu Phe His Ser Arg Pro Ala Leu Ala Pro Pro Phe Ile
1070 1075 1080

Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln Leu Cys Arg Arg
1085 1090 1095

Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu His Phe Arg
1100 1105 1110

Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr Trp Glu
1115 1120 1125

Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp Lys
1130 1135 1140

Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val
1145 1150 1155

Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln

1160 1165 1170

Arg Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val
1175 1180 1185

Leu Gly Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro
1190 1195 1200

Pro Gly Gly Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp
1205 1210

<210> 13
<211> 188
<212> PRT
<213> Homo sapien

<400> 13
Met Asp Cys Arg Lys Met Ala Arg Phe Ser Tyr Ser Val Ile Trp
1 5 10 15

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

Leu Gly His Gln Glu Phe Ala Arg Pro Ser Arg Gly Tyr Leu Ala
35 40 45

Phe Arg Asp Asp Ser Ile Trp Pro Gln Glu Glu Pro Ala Ile Arg
50 55 60

Pro Arg Ser Ser Gln Arg Val Pro Pro Met Gly Ile Gln His Ser
65 70 75

Lys Glu Leu Asn Arg Thr Cys Cys Leu Asn Gly Gly Thr Cys Met
80 85 90

Leu Gly Ser Phe Cys Ala Cys Pro Pro Ser Phe Tyr Gly Arg Asn
95 100 105

Cys Glu His Asp Val Arg Lys Glu Asn Cys Gly Ser Val Pro His
110 115 120

Asp Thr Trp Leu Pro Lys Lys Cys Ser Leu Cys Lys Cys Trp His
125 130 135

Gly Gln Leu Arg Cys Phe Pro Gln Ala Phe Leu Pro Gly Cys Asp
140 145 150

Gly Leu Val Met Asp Glu His Leu Val Ala Ser Arg Thr Pro Glu
155 160 165

Leu Pro Pro Ser Ala Arg Thr Thr Thr Phe Met Leu Val Gly Ile
170 175 180

Cys Leu Ser Ile Gln Ser Tyr Tyr
185

<210> 14
<211> 1033
<212> PRT
<213> Homo sapien

<400> 14

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Met Gly Ala Ala Gly Leu Leu Gly Val Phe Leu Ala Leu Val Ala
 1               5                  10                  15

Pro Gly Val Leu Gly Ile Ser Cys Gly Ser Pro Pro Pro Ile Leu
            20                  25                  30

Asn Gly Arg Ile Ser Tyr Tyr Ser Thr Pro Ile Ala Val Gly Thr
        35                  40                  45

Val Ile Arg Tyr Ser Cys Ser Gly Thr Phe Arg Leu Ile Gly Glu
    50                  55                  60

Lys Ser Leu Leu Cys Ile Thr Lys Asp Lys Val Asp Gly Thr Trp
65                  70                  75

Asp Lys Pro Ala Pro Lys Cys Glu Tyr Phe Asn Lys Tyr Ser Ser
            80                  85                  90

Cys Pro Glu Pro Ile Val Pro Gly Gly Tyr Lys Ile Arg Gly Ser
        95                  100                 105

Thr Pro Tyr Arg His Gly Asp Ser Val Thr Phe Ala Cys Lys Thr
    110                 115                 120

Asn Phe Ser Met Asn Gly Asn Lys Ser Val Trp Cys Gln Ala Asn
125                 130                 135

Asn Met Trp Gly Pro Thr Arg Leu Pro Thr Cys Val Ser Val Phe
            140                 145                 150

Pro Leu Glu Cys Pro Ala Leu Pro Met Ile His Asn Gly His His
        155                 160                 165

Thr Ser Glu Asn Val Gly Ser Ile Ala Pro Gly Leu Ser Val Thr
    170                 175                 180

Tyr Ser Cys Glu Ser Gly Tyr Leu Leu Val Gly Glu Lys Ile Ile
185                 190                 195

Asn Cys Leu Ser Ser Gly Lys Trp Ser Ala Val Pro Pro Thr Cys
            200                 205                 210

Glu Glu Ala Arg Cys Lys Ser Leu Gly Arg Phe Pro Asn Gly Lys
        215                 220                 225

Val Lys Glu Pro Pro Ile Leu Arg Val Gly Val Thr Ala Asn Phe
    230                 235                 240

Phe Cys Asp Glu Gly Tyr Arg Leu Gln Gly Pro Pro Ser Ser Arg
245                 250                 255

Cys Val Ile Ala Gly Gln Gly Val Ala Trp Thr Lys Met Pro Val
            260                 265                 270

Cys Glu Glu Ile Phe Cys Pro Ser Pro Pro Pro Ile Leu Asn Gly
        275                 280                 285

Arg His Ile Gly Asn Ser Leu Ala Asn Val Ser Tyr Gly Ser Ile
    290                 295                 300
```

Val Thr Tyr Thr Cys Asp Pro Asp Pro Glu Glu Gly Val Asn Phe
305 310 315

Ile Leu Ile Gly Glu Ser Thr Leu Arg Cys Thr Val Asp Ser Gln
320 325 330

Lys Thr Gly Thr Trp Ser Gly Pro Ala Pro Arg Cys Glu Leu Ser
335 340 345

Thr Ser Ala Val Gln Cys Pro His Pro Gln Ile Leu Arg Gly Arg
350 355 360

Met Val Ser Gly Gln Lys Asp Arg Tyr Thr Tyr Asn Asp Thr Val
365 370 375

Ile Phe Ala Cys Met Phe Gly Phe Thr Leu Lys Gly Ser Lys Gln
380 385 390

Ile Arg Cys Asn Ala Gln Gly Thr Trp Glu Pro Ser Ala Pro Val
395 400 405

Cys Glu Lys Glu Cys Gln Ala Pro Pro Asn Ile Leu Asn Gly Gln
410 415 420

Lys Glu Asp Arg His Met Val Arg Phe Asp Pro Gly Thr Ser Ile
425 430 435

Lys Tyr Ser Cys Asn Pro Gly Tyr Val Leu Val Gly Glu Glu Ser
440 445 450

Ile Gln Cys Thr Ser Glu Gly Val Trp Thr Pro Pro Val Pro Gln
455 460 465

Cys Lys Val Ala Ala Cys Glu Ala Thr Gly Arg Gln Leu Leu Thr
470 475 480

Lys Pro Gln His Gln Phe Val Arg Pro Asp Val Asn Ser Ser Cys
485 490 495

Gly Glu Gly Tyr Lys Leu Ser Gly Ser Val Tyr Gln Glu Cys Gln
500 505 510

Gly Thr Ile Pro Trp Phe Met Glu Ile Arg Leu Cys Lys Glu Ile
515 520 525

Thr Cys Pro Pro Pro Pro Val Ile Tyr Asn Gly Ala His Thr Gly
530 535 540

Ser Ser Leu Glu Asp Phe Pro Tyr Gly Thr Thr Val Thr Tyr Thr
545 550 555

Cys Asn Pro Gly Pro Glu Arg Gly Val Glu Phe Ser Leu Ile Gly
560 565 570

Glu Ser Thr Ile Arg Cys Thr Ser Asn Asp Gln Glu Arg Gly Thr
575 580 585

Trp Ser Gly Pro Ala Pro Leu Cys Lys Leu Ser Leu Leu Ala Val
590 595 600

Gln Cys Ser His Val His Ile Ala Asn Gly Tyr Lys Ile Ser Gly

605 610 615

Lys Glu Ala Pro Tyr Phe Tyr Asn Asp Thr Val Thr Phe Lys Cys
620 625 630

Tyr Ser Gly Phe Thr Leu Lys Gly Ser Ser Gln Ile Arg Cys Lys
635 640 645

Ala Asp Asn Thr Trp Asp Pro Glu Ile Pro Val Cys Glu Lys Glu
650 655 660

Thr Cys Gln His Val Arg Gln Ser Leu Gln Glu Leu Pro Ala Gly
665 670 675

Ser Arg Val Glu Leu Val Asn Thr Ser Cys Gln Asp Gly Tyr Gln
680 685 690

Leu Thr Gly His Ala Tyr Gln Met Cys Gln Asp Ala Glu Asn Gly
695 700 705

Ile Trp Phe Lys Lys Ile Pro Leu Cys Lys Val Ile His Cys His
710 715 720

Pro Pro Pro Val Ile Val Asn Gly Lys His Thr Gly Met Met Ala
725 730 735

Glu Asn Phe Leu Tyr Gly Asn Glu Val Ser Tyr Glu Cys Asp Gln
740 745 750

Gly Phe Tyr Leu Leu Gly Glu Lys Lys Leu Gln Cys Arg Ser Asp
755 760 765

Ser Lys Gly His Gly Ser Trp Ser Gly Pro Ser Pro Gln Cys Leu
770 775 780

Arg Ser Pro Pro Val Thr Arg Cys Pro Asn Pro Glu Val Lys His
785 790 795

Gly Tyr Lys Leu Asn Lys Thr His Ser Ala Tyr Ser His Asn Asp
800 805 810

Ile Val Tyr Val Asp Cys Asn Pro Gly Phe Ile Met Asn Gly Ser
815 820 825

Arg Val Ile Arg Cys His Thr Asp Asn Thr Trp Val Pro Gly Val
830 835 840

Pro Thr Cys Ile Lys Lys Ala Phe Ile Gly Cys Pro Pro Pro Pro
845 850 855

Lys Thr Pro Asn Gly Asn His Thr Gly Gly Asn Ile Ala Arg Phe
860 865 870

Ser Pro Gly Met Ser Ile Leu Tyr Ser Cys Asp Gln Gly Tyr Leu
875 880 885

Leu Val Gly Glu Ala Leu Leu Leu Cys Thr His Glu Gly Thr Trp
890 895 900

Ser Gln Pro Ala Pro His Cys Lys Glu Val Asn Cys Ser Ser Pro
905 910 915

```
Ala Asp Met Asp Gly Ile Gln Lys Gly Leu Glu Pro Arg Lys Met
                  920                 925                 930

Tyr Gln Tyr Gly Ala Val Val Thr Leu Glu Cys Glu Asp Gly Tyr
                  935                 940                 945

Met Leu Glu Gly Ser Pro Gln Ser Gln Cys Gln Ser Asp His Gln
                  950                 955                 960

Trp Asn Pro Pro Leu Ala Val Cys Arg Ser Arg Ser Leu Ala Pro
                  965                 970                 975

Val Leu Cys Gly Ile Ala Ala Gly Leu Ile Leu Leu Thr Phe Leu
                  980                 985                 990

Ile Val Ile Thr Leu Tyr Val Ile Ser Lys His Arg Glu Arg Asn
                  995                1000                1005

Tyr Tyr Thr Asp Thr Ser Gln Lys Glu Ala Phe His Leu Glu Ala
                1010                1015                1020

Arg Glu Val Tyr Ser Val Asp Pro Tyr Asn Pro Ala Ser
                1025                1030
```

<210> 15
<211> 229
<212> PRT
<213> Homo sapien

<400> 15

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 Met Ala Arg Leu Ala Leu Ser Pro Val Pro Ser His Trp Met Val
   1               5                  10                  15

 Ala Leu Leu Leu Leu Leu Ser Ala Glu Pro Val Pro Ala Ala Arg
                  20                  25                  30

 Ser Glu Asp Arg Tyr Arg Asn Pro Lys Gly Ser Ala Cys Ser Arg
                  35                  40                  45

 Ile Trp Gln Ser Pro Arg Phe Ile Ala Arg Lys Arg Gly Phe Thr
                  50                  55                  60

 Val Lys Met His Cys Tyr Met Asn Ser Ala Ser Gly Asn Val Ser
                  65                  70                  75

 Trp Leu Trp Lys Gln Glu Met Asp Glu Asn Pro Gln Gln Leu Lys
                  80                  85                  90

 Leu Glu Lys Gly Arg Met Glu Glu Ser Gln Asn Glu Ser Leu Ala
                  95                 100                 105

 Thr Leu Thr Ile Gln Gly Ile Arg Phe Glu Asp Asn Gly Ile Tyr
                 110                 115                 120

 Phe Cys Gln Gln Lys Cys Asn Asn Thr Ser Glu Val Tyr Gln Gly
                 125                 130                 135

 Cys Gly Thr Glu Leu Arg Val Met Gly Phe Ser Thr Leu Ala Gln
                 140                 145                 150
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Leu Lys Gln Arg Asn Thr Leu Lys Asp Gly Ile Ile Met Ile Gln
155 160 165

Thr Leu Leu Ile Ile Leu Phe Ile Ile Val Pro Ile Phe Leu Leu
170 175 180

Leu Asp Lys Asp Asp Ser Lys Ala Gly Met Glu Glu Asp His Thr
185 190 195

Tyr Glu Gly Leu Asp Ile Asp Gln Thr Ala Thr Tyr Glu Asp Ile
200 205 210

Val Thr Leu Arg Thr Gly Glu Val Lys Trp Ser Val Gly Glu His
215 220 225

Pro Gly Gln Glu

<210> 16
<211> 508
<212> PRT
<213> Homo sapien

<400> 16
Met Leu Leu Trp Ser Leu Leu Val Ile Phe Asp Ala Val Thr Glu
1 5 10 15

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

Gly Asp Ser Ile Val Leu Lys Cys Gln Gly Glu Gln Asn Trp Lys
35 40 45

Ile Gln Lys Met Ala Tyr His Lys Asp Asn Lys Glu Leu Ser Val
50 55 60

Phe Lys Lys Phe Ser Asp Phe Leu Ile Gln Ser Ala Val Leu Ser
65 70 75

Asp Ser Gly Asn Tyr Phe Cys Ser Thr Lys Gly Gln Leu Phe Leu
80 85 90

Trp Asp Lys Thr Ser Asn Ile Val Lys Ile Lys Val Gln Glu Leu
95 100 105

Phe Gln Arg Pro Val Leu Thr Ala Ser Ser Phe Gln Pro Ile Glu
110 115 120

Gly Gly Pro Val Ser Leu Lys Cys Glu Thr Arg Leu Ser Pro Gln
125 130 135

Arg Leu Asp Val Gln Leu Gln Phe Cys Phe Phe Arg Glu Asn Gln
140 145 150

Val Leu Gly Ser Gly Trp Ser Ser Ser Pro Glu Leu Gln Ile Ser
155 160 165

Ala Val Trp Ser Glu Asp Thr Gly Ser Tyr Trp Cys Lys Ala Glu
170 175 180

Thr Val Thr His Arg Ile Arg Lys Gln Ser Leu Gln Ser Gln Ile

185 190 195

His Val Gln Arg Ile Pro Ile Ser Asn Val Ser Leu Glu Ile Arg
200 205 210

Ala Pro Gly Gly Gln Val Thr Glu Gly Gln Lys Leu Ile Leu Leu
215 220 225

Cys Ser Val Ala Gly Gly Thr Gly Asn Val Thr Phe Ser Trp Tyr
230 235 240

Arg Glu Ala Thr Gly Thr Ser Met Gly Lys Lys Thr Gln Arg Ser
245 250 255

Leu Ser Ala Glu Leu Glu Ile Pro Ala Val Lys Glu Ser Asp Ala
260 265 270

Gly Lys Tyr Tyr Cys Arg Ala Asp Asn Gly His Val Pro Ile Gln
275 280 285

Ser Lys Val Val Asn Ile Pro Val Arg Ile Pro Val Ser Arg Pro
290 295 300

Val Leu Thr Leu Arg Ser Pro Gly Ala Gln Ala Ala Val Gly Asp
305 310 315

Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro Pro Ile
320 325 330

Leu Tyr Gln Phe Tyr His Glu Asp Val Thr Leu Gly Asn Ser Ser
335 340 345

Ala Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Ala
350 355 360

Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu Gly
365 370 375

Ala Gln Cys Ser Glu Ala Val Pro Val Ser Ile Ser Gly Pro Asp
380 385 390

Gly Tyr Arg Arg Asp Leu Met Thr Ala Gly Val Leu Trp Gly Leu
395 400 405

Phe Gly Val Leu Gly Phe Thr Gly Val Ala Leu Leu Leu Tyr Ala
410 415 420

Leu Phe His Lys Ile Ser Gly Glu Ser Ser Ala Thr Asn Glu Pro
425 430 435

Arg Gly Ala Ser Arg Pro Asn Pro Gln Glu Phe Thr Tyr Ser Ser
440 445 450

Pro Thr Pro Asp Met Glu Glu Leu Gln Pro Val Tyr Val Asn Val
455 460 465

Gly Ser Val Asp Val Asp Val Val Tyr Ser Gln Val Trp Ser Met
470 475 480

Gln Gln Pro Glu Ser Ser Ala Asn Ile Arg Thr Leu Leu Glu Asn
485 490 495

Lys Asp Ser Gln Val Ile Tyr Ser Ser Val Lys Lys Ser
500 505

<210> 17
<211> 1255
<212> PRT
<213> Homo sapien

<400> 17
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu
1 5 10 15

Leu Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp
20 25 30

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

Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu
50 55 60

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

Asp Ile Gln Glu Val Gln Gly Tyr Val Leu Ile Ala His Asn Gln
80 85 90

Val Arg Gln Val Pro Leu Gln Arg Leu Arg Ile Val Arg Gly Thr
95 100 105

Gln Leu Phe Glu Asp Asn Tyr Ala Leu Ala Val Leu Asp Asn Gly
110 115 120

Asp Pro Leu Asn Asn Thr Thr Pro Val Thr Gly Ala Ser Pro Gly
125 130 135

Gly Leu Arg Glu Leu Gln Leu Arg Ser Leu Thr Glu Ile Leu Lys
140 145 150

Gly Gly Val Leu Ile Gln Arg Asn Pro Gln Leu Cys Tyr Gln Asp
155 160 165

Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn Asn Gln Leu Ala
170 175 180

Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys His Pro Cys
185 190 195

Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser Ser Glu
200 205 210

Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys Ala
215 220 225

Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
230 235 240

Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys
245 250 255

```
Leu His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala
                260                 265                 270

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

Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro
                290                 295                 300

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

Pro Leu His Asn Gln Glu Val Thr Ala Glu Asp Gly Thr Gln Arg
                320                 325                 330

Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly Leu
                335                 340                 345

Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn
                350                 355                 360

Ile Gln Glu Phe Ala Gly Cys Lys Lys Ile Phe Gly Ser Leu Ala
                365                 370                 375

Phe Leu Pro Glu Ser Phe Asp Gly Asp Pro Ala Ser Asn Thr Ala
                380                 385                 390

Pro Leu Gln Pro Glu Gln Leu Gln Val Phe Glu Thr Leu Glu Glu
                395                 400                 405

Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro Asp Ser Leu Pro
                410                 415                 420

Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg Gly Arg Ile
                425                 430                 435

Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu Gly Ile
                440                 445                 450

Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly Leu
                455                 460                 465

Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val
                470                 475                 480

Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His
                485                 490                 495

Thr Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala
                500                 505                 510

Cys His Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro
                515                 520                 525

Thr Gln Cys Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys
                530                 535                 540

Val Glu Glu Cys Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val
                545                 550                 555

Asn Ala Arg His Cys Leu Pro Cys His Pro Glu Cys Gln Pro Gln
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560 565 570

Asn Gly Ser Val Thr Cys Phe Gly Pro Glu Ala Asp Gln Cys Val
575 580 585

Ala Cys Ala His Tyr Lys Asp Pro Pro Phe Cys Val Ala Arg Cys
590 595 600

Pro Ser Gly Val Lys Pro Asp Leu Ser Tyr Met Pro Ile Trp Lys
605 610 615

Phe Pro Asp Glu Glu Gly Ala Cys Gln Pro Cys Pro Ile Asn Cys
620 625 630

Thr His Ser Cys Val Asp Leu Asp Asp Lys Gly Cys Pro Ala Glu
635 640 645

Gln Arg Ala Ser Pro Leu Thr Ser Ile Ile Ser Ala Val Val Gly
650 655 660

Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly Ile Leu Ile
665 670 675

Lys Arg Arg Gln Gln Lys Ile Arg Lys Tyr Thr Met Arg Arg Leu
680 685 690

Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly Ala
695 700 705

Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu
710 715 720

Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr
725 730 735

Lys Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val
740 745 750

Ala Ile Lys Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys
755 760 765

Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Gly Val Gly Ser Pro
770 775 780

Tyr Val Ser Arg Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln
785 790 795

Leu Val Thr Gln Leu Met Pro Tyr Gly Cys Leu Leu Asp His Val
800 805 810

Arg Glu Asn Arg Gly Arg Leu Gly Ser Gln Asp Leu Leu Asn Trp
815 820 825

Cys Met Gln Ile Ala Lys Gly Met Ser Tyr Leu Glu Asp Val Arg
830 835 840

Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Ser
845 850 855

Pro Asn His Val Lys Ile Thr Asp Phe Gly Leu Ala Arg Leu Leu
860 865 870

Asp Ile Asp Glu Thr Glu Tyr His Ala Asp Gly Gly Lys Val Pro
875 880 885

Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg Arg Arg Phe Thr
890 895 900

His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu
905 910 915

Met Thr Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala Arg Glu
920 925 930

Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro Pro
935 940 945

Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met
950 955 960

Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu
965 970 975

Phe Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln
980 985 990

Asn Glu Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr
995 1000 1005

Arg Ser Leu Leu Glu Asp Asp Asp Met Gly Asp Leu Val Asp Ala
1010 1015 1020

Glu Glu Tyr Leu Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro
1025 1030 1035

Ala Pro Gly Ala Gly Gly Met Val His His Arg His Arg Ser Ser
1040 1045 1050

Ser Thr Arg Ser Gly Gly Gly Asp Leu Thr Leu Gly Leu Glu Pro
1055 1060 1065

Ser Glu Glu Glu Ala Pro Arg Ser Pro Leu Ala Pro Ser Glu Gly
1070 1075 1080

Ala Gly Ser Asp Val Phe Asp Gly Asp Leu Gly Met Gly Ala Ala
1085 1090 1095

Lys Gly Leu Gln Ser Leu Pro Thr His Asp Pro Ser Pro Leu Gln
1100 1105 1110

Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu Pro Ser Glu Thr Asp
1115 1120 1125

Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro Gln Pro Glu Tyr Val
1130 1135 1140

Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser Pro Arg Glu Gly
1145 1150 1155

Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu Arg Pro
1160 1165 1170

```
Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val Phe
                1175                1180                1185

Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro Gln
                1190                1195                1200

Gly Gly Ala Ala Pro Gln Pro His Pro Pro Pro Ala Phe Ser Pro
                1205                1210                1215

Ala Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg
                1220                1225                1230

Gly Ala Pro Pro Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn
                1235                1240                1245

Pro Glu Tyr Leu Gly Leu Asp Val Pro Val
                1250                1255
```

<210> 18
<211> 344
<212> PRT
<213> Homo sapien

<400> 18

```
Met Gly Pro Pro Ser Ala Pro Pro Cys Arg Leu His Val Pro Trp
  1               5                  10                  15

Lys Glu Val Leu Leu Thr Ala Ser Leu Leu Thr Phe Trp Asn Pro
                20                  25                  30

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

Ala Glu Gly Lys Glu Val Leu Leu Leu Ala His Asn Leu Pro Gln
                50                  55                  60

Asn Arg Ile Gly Tyr Ser Trp Tyr Lys Gly Glu Arg Val Asp Gly
                65                  70                  75

Asn Ser Leu Ile Val Gly Tyr Val Ile Gly Thr Gln Gln Ala Thr
                80                  85                  90

Pro Gly Pro Ala Tyr Ser Gly Arg Glu Thr Ile Tyr Pro Asn Ala
                95                  100                 105

Ser Leu Leu Ile Gln Asn Val Thr Gln Asn Asp Thr Gly Phe Tyr
                110                 115                 120

Thr Leu Gln Val Ile Lys Ser Asp Leu Val Asn Glu Glu Ala Thr
                125                 130                 135

Gly Gln Phe His Val Tyr Pro Glu Leu Pro Lys Pro Ser Ile Ser
                140                 145                 150

Ser Asn Asn Ser Asn Pro Val Glu Asp Lys Asp Ala Val Ala Phe
                155                 160                 165

Thr Cys Glu Pro Glu Val Gln Asn Thr Thr Tyr Leu Trp Trp Val
                170                 175                 180

Asn Gly Gln Ser Leu Pro Val Ser Pro Arg Leu Gln Leu Ser Asn
```

185 190 195

Gly Asn Met Thr Leu Thr Leu Leu Ser Val Lys Arg Asn Asp Ala
200 205 210

Gly Ser Tyr Glu Cys Glu Ile Gln Asn Pro Ala Ser Ala Asn Arg
215 220 225

Ser Asp Pro Val Thr Leu Asn Val Leu Tyr Gly Pro Asp Val Pro
230 235 240

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

Asn Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser
260 265 270

Trp Phe Ile Asn Gly Thr Phe Gln Gln Ser Thr Gln Glu Leu Phe
275 280 285

Ile Pro Asn Ile Thr Val Asn Asn Ser Gly Ser Tyr Met Cys Gln
290 295 300

Ala His Asn Ser Ala Thr Gly Leu Asn Arg Thr Thr Val Thr Met
305 310 315

Ile Thr Val Ser Gly Ser Ala Pro Val Leu Ser Ala Val Ala Thr
320 325 330

Val Gly Ile Thr Ile Gly Val Leu Ala Arg Val Ala Leu Ile
335 340

<210> 19
<211> 411
<212> PRT
<213> Homo sapien

<400> 19
Met Trp Ser Gly Trp Trp Leu Trp Pro Leu Val Ala Val Cys Thr
1 5 10 15

Ala Asp Phe Phe Arg Asp Glu Ala Glu Arg Ile Met Arg Asp Ser
20 25 30

Pro Val Ile Asp Gly His Asn Asp Leu Pro Trp Gln Leu Leu Asp
35 40 45

Met Phe Asn Asn Arg Leu Gln Asp Glu Arg Ala Asn Leu Thr Thr
50 55 60

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

Val Gly Gly Gln Phe Trp Ser Val Tyr Thr Pro Cys Asp Thr Gln
80 85 90

Asn Lys Asp Ala Val Arg Arg Thr Leu Glu Gln Met Asp Val Val
95 100 105

His Arg Met Cys Arg Met Tyr Pro Glu Thr Phe Leu Tyr Val Thr
110 115 120

Ser Ser Ala Gly Ile Arg Gln Ala Phe Arg Glu Gly Lys Val Ala
125 130 135

Ser Leu Ile Gly Val Glu Gly Gly His Ser Ile Asp Ser Ser Leu
140 145 150

Gly Val Leu Arg Ala Leu Tyr Gln Leu Gly Met Arg Tyr Leu Thr
155 160 165

Leu Thr His Ser Cys Asn Thr Pro Trp Ala Asp Asn Trp Leu Val
170 175 180

Asp Thr Gly Asp Ser Glu Pro Gln Ser Gln Gly Leu Ser Pro Phe
185 190 195

Gly Gln Arg Val Val Lys Glu Leu Asn Arg Leu Gly Val Leu Ile
200 205 210

Asp Leu Ala His Val Ser Val Ala Thr Met Lys Ala Thr Leu Gln
215 220 225

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

Val Cys Ala Ser Arg Arg Asn Val Pro Asp Asp Val Leu Arg Leu
245 250 255

Val Lys Gln Thr Asp Ser Leu Val Met Val Asn Phe Tyr Asn Asn
260 265 270

Tyr Ile Ser Cys Thr Asn Lys Ala Asn Leu Ser Gln Val Ala Asp
275 280 285

His Leu Asp His Ile Lys Glu Val Ala Gly Ala Arg Ala Val Gly
290 295 300

Phe Gly Gly Asp Phe Asp Gly Val Pro Arg Val Pro Glu Gly Leu
305 310 315

Glu Asp Val Ser Lys Tyr Pro Asp Leu Ile Ala Glu Leu Leu Arg
320 325 330

Arg Asn Trp Thr Glu Ala Glu Val Lys Gly Ala Leu Ala Asp Asn
335 340 345

Leu Leu Arg Val Phe Glu Ala Val Glu Gln Ala Ser Asn Leu Thr
350 355 360

Gln Ala Pro Glu Glu Glu Pro Ile Pro Leu Asp Gln Leu Gly Gly
365 370 375

Ser Cys Arg Thr His Tyr Gly Tyr Ser Ser Gly Ala Ser Ser Leu
380 385 390

His Arg His Trp Gly Leu Leu Leu Ala Ser Leu Ala Pro Leu Val
395 400 405

Leu Cys Leu Ser Leu Leu
410

<210> 20
<211> 553
<212> PRT
<213> Homo sapien

<400> 20

```
Met Arg Ala Pro Gly Arg Pro Ala Leu Arg Pro Leu Pro Leu Pro
  1               5                  10                  15

Pro Leu Leu Leu Leu Leu Leu Ala Ala Pro Trp Gly Arg Ala Val
             20                  25                  30

Pro Cys Val Ser Gly Gly Leu Pro Lys Pro Ala Asn Ile Thr Phe
             35                  40                  45

Leu Ser Ile Asn Met Lys Asn Val Leu Gln Trp Thr Pro Pro Glu
             50                  55                  60

Gly Leu Gln Gly Val Lys Val Thr Tyr Thr Val Gln Tyr Phe Ile
             65                  70                  75

Tyr Gly Gln Lys Lys Trp Leu Asn Lys Ser Glu Cys Arg Asn Ile
             80                  85                  90

Asn Arg Thr Tyr Cys Asp Leu Ser Ala Glu Thr Ser Asp Tyr Glu
             95                 100                 105

His Gln Tyr Tyr Ala Lys Val Lys Ala Ile Trp Gly Thr Lys Cys
            110                 115                 120

Ser Lys Trp Ala Glu Ser Gly Arg Phe Tyr Pro Phe Leu Glu Thr
            125                 130                 135

Gln Ile Gly Pro Pro Glu Val Ala Leu Thr Thr Asp Glu Lys Ser
            140                 145                 150

Ile Ser Val Val Leu Thr Ala Pro Glu Lys Trp Lys Arg Asn Pro
            155                 160                 165

Glu Asp Leu Pro Val Ser Met Gln Gln Ile Tyr Ser Asn Leu Lys
            170                 175                 180

Tyr Asn Val Ser Val Leu Asn Thr Lys Ser Asn Arg Thr Trp Ser
            185                 190                 195

Gln Cys Val Thr Asn His Thr Leu Val Leu Thr Trp Leu Glu Pro
            200                 205                 210

Asn Thr Leu Tyr Cys Val His Val Glu Ser Phe Val Pro Gly Pro
            215                 220                 225

Pro Arg Arg Ala Gln Pro Ser Glu Lys Gln Cys Ala Arg Thr Leu
            230                 235                 240

Lys Asp Gln Ser Ser Glu Phe Lys Ala Lys Ile Ile Phe Trp Tyr
            245                 250                 255

Val Leu Pro Ile Ser Ile Thr Val Phe Leu Phe Ser Val Met Gly
            260                 265                 270

Tyr Ser Ile Tyr Arg Tyr Ile His Val Gly Lys Glu Lys His Pro
```

275 280 285

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

Phe Val Pro Ala Glu Lys Ile Val Ile Asn Phe Ile Thr Leu Asn
305 310 315

Ile Ser Asp Asp Ser Lys Ile Ser His Gln Asp Met Ser Leu Leu
320 325 330

Gly Lys Ser Ser Asp Val Ser Ser Leu Asn Asp Pro Gln Pro Ser
335 340 345

Gly Asn Leu Arg Pro Pro Gln Glu Glu Glu Glu Val Lys His Leu
350 355 360

Gly Tyr Ala Ser His Leu Met Glu Ile Phe Cys Asp Ser Glu Glu
365 370 375

Asn Thr Glu Gly Thr Ser Phe Thr Gln Gln Glu Ser Leu Ser Arg
380 385 390

Thr Ile Pro Pro Asp Lys Thr Val Ile Glu Tyr Glu Tyr Asp Val
395 400 405

Arg Thr Thr Asp Ile Cys Ala Gly Pro Glu Glu Gln Glu Leu Ser
410 415 420

Leu Gln Glu Glu Val Ser Thr Gln Gly Thr Leu Leu Glu Ser Gln
425 430 435

Ala Ala Leu Ala Val Leu Gly Pro Gln Thr Leu Gln Tyr Ser Tyr
440 445 450

Thr Pro Gln Leu Gln Asp Leu Asp Pro Leu Ala Gln Glu His Thr
455 460 465

Asp Ser Glu Glu Gly Pro Glu Glu Glu Pro Ser Thr Thr Leu Val
470 475 480

Asp Trp Asp Pro Gln Thr Gly Arg Leu Cys Ile Pro Ser Leu Ser
485 490 495

Ser Phe Asp Gln Asp Ser Glu Gly Cys Glu Pro Ser Glu Gly Asp
500 505 510

Gly Leu Gly Glu Glu Gly Leu Leu Ser Arg Leu Tyr Glu Glu Pro
515 520 525

Ala Pro Asp Arg Pro Pro Gly Glu Asn Glu Thr Tyr Leu Met Gln
530 535 540

Phe Met Glu Glu Trp Gly Leu Tyr Val Gln Met Glu Asn
545 550

<210> 21
<211> 911
<212> PRT
<213> Homo sapien

<400> 21

```
Met Ala Gln Leu Phe Leu Pro Leu Leu Ala Ala Leu Val Leu Ala
 1               5                  10                  15

Gln Ala Pro Ala Ala Leu Ala Asp Val Leu Glu Gly Asp Ser Ser
            20                  25                  30

Glu Asp Arg Ala Phe Arg Val Arg Ile Ala Gly Asp Ala Pro Leu
        35                  40                  45

Gln Gly Val Leu Gly Gly Ala Leu Thr Ile Pro Cys His Val His
    50                  55                  60

Tyr Leu Arg Pro Pro Pro Ser Arg Arg Ala Val Leu Gly Ser Pro
65                  70                  75

Arg Val Lys Trp Thr Phe Leu Ser Arg Gly Arg Glu Ala Glu Val
                80                  85                  90

Leu Val Ala Arg Gly Val Arg Val Lys Val Asn Glu Ala Tyr Arg
            95                  100                 105

Phe Arg Val Ala Leu Pro Ala Tyr Pro Ala Ser Leu Thr Asp Val
        110                 115                 120

Ser Leu Ala Leu Ser Glu Leu Arg Pro Asn Asp Ser Gly Ile Tyr
    125                 130                 135

Arg Cys Glu Val Gln His Gly Ile Asp Asp Ser Ser Asp Ala Val
140                 145                 150

Glu Val Lys Val Lys Gly Val Val Phe Leu Tyr Arg Glu Gly Ser
155                 160                 165

Ala Arg Tyr Ala Phe Ser Phe Ser Gly Ala Gln Glu Ala Cys Ala
                170                 175                 180

Arg Ile Gly Ala His Ile Ala Thr Pro Glu Gln Leu Tyr Ala Ala
            185                 190                 195

Tyr Leu Gly Gly Tyr Glu Gln Cys Asp Ala Gly Trp Leu Ser Asp
        200                 205                 210

Gln Thr Val Arg Tyr Pro Ile Gln Thr Pro Arg Glu Ala Cys Tyr
    215                 220                 225

Gly Asp Met Asp Gly Phe Pro Gly Val Arg Asn Tyr Gly Val Val
230                 235                 240

Asp Pro Asp Asp Leu Tyr Asp Val Tyr Cys Tyr Ala Glu Asp Leu
                245                 250                 255

Asn Gly Glu Leu Phe Leu Gly Asp Pro Pro Glu Lys Leu Thr Leu
            260                 265                 270

Glu Glu Ala Arg Ala Tyr Cys Gln Glu Arg Gly Ala Glu Ile Ala
        275                 280                 285

Thr Thr Gly Gln Leu Tyr Ala Ala Trp Asp Gly Gly Leu Asp His
    290                 295                 300
```

Cys Ser Pro Gly Trp Leu Ala Asp Gly Ser Val Arg Tyr Pro Ile
305 310 315

Val Thr Pro Ser Gln Arg Cys Gly Gly Gly Leu Pro Gly Val Lys
320 325 330

Thr Leu Phe Leu Phe Pro Asn Gln Thr Gly Phe Pro Asn Lys His
335 340 345

Ser Arg Phe Asn Val Tyr Cys Phe Arg Asp Ser Ala Gln Pro Ser
350 355 360

Ala Ile Pro Glu Ala Ser Asn Pro Ala Ser Asn Pro Ala Ser Asp
365 370 375

Gly Leu Glu Ala Ile Val Thr Val Thr Glu Thr Leu Glu Glu Leu
380 385 390

Gln Leu Pro Gln Glu Ala Thr Glu Ser Glu Ser Arg Gly Ala Ile
395 400 405

Tyr Ser Ile Pro Ile Met Glu Asp Gly Gly Gly Gly Ser Ser Thr
410 415 420

Pro Glu Asp Pro Ala Glu Ala Pro Arg Thr Leu Leu Glu Phe Glu
425 430 435

Thr Gln Ser Met Val Pro Pro Thr Gly Phe Ser Glu Glu Glu Gly
440 445 450

Lys Ala Leu Glu Glu Glu Glu Lys Tyr Glu Asp Glu Glu Glu Lys
455 460 465

Glu Glu Glu Glu Glu Glu Glu Glu Val Glu Asp Glu Ala Leu Trp
470 475 480

Ala Trp Pro Ser Glu Leu Ser Ser Pro Gly Pro Glu Ala Ser Leu
485 490 495

Pro Thr Glu Pro Ala Ala Gln Glu Lys Ser Leu Ser Gln Ala Pro
500 505 510

Ala Arg Ala Val Leu Gln Pro Gly Ala Ser Pro Leu Pro Asp Gly
515 520 525

Glu Ser Glu Ala Ser Arg Pro Pro Arg Val His Gly Pro Pro Thr
530 535 540

Glu Thr Leu Pro Thr Pro Arg Glu Arg Asn Leu Ala Ser Pro Ser
545 550 555

Pro Ser Thr Leu Val Glu Ala Arg Glu Val Gly Glu Ala Thr Gly
560 565 570

Gly Pro Glu Leu Ser Gly Val Pro Arg Gly Glu Ser Glu Glu Thr
575 580 585

Gly Ser Ser Glu Gly Ala Pro Ser Leu Leu Pro Ala Thr Arg Ala
590 595 600

Pro Glu Gly Thr Arg Glu Leu Glu Ala Pro Ser Glu Asp Asn Ser

605 610 615

Gly Arg Thr Ala Pro Ala Gly Thr Ser Val Gln Ala Gln Pro Val
620 625 630

Leu Pro Thr Asp Ser Ala Ser Arg Gly Gly Val Ala Val Val Pro
635 640 645

Ala Ser Gly Asp Cys Val Pro Ser Pro Cys His Asn Gly Gly Thr
650 655 660

Cys Leu Glu Glu Glu Glu Gly Val Arg Cys Leu Cys Leu Pro Gly
665 670 675

Tyr Gly Gly Asp Leu Cys Asp Val Gly Leu Arg Phe Cys Asn Pro
680 685 690

Gly Trp Asp Ala Phe Gln Gly Ala Cys Tyr Lys His Phe Ser Thr
695 700 705

Arg Arg Ser Trp Glu Glu Ala Glu Thr Gln Cys Arg Met Tyr Gly
710 715 720

Ala His Leu Ala Ser Ile Ser Thr Pro Glu Glu Gln Asp Phe Ile
725 730 735

Asn Asn Arg Tyr Arg Glu Tyr Gln Trp Ile Gly Leu Asn Asp Arg
740 745 750

Thr Ile Glu Gly Asp Phe Leu Trp Ser Asp Gly Val Pro Leu Leu
755 760 765

Tyr Glu Asn Trp Asn Pro Gly Gln Pro Asp Ser Tyr Phe Leu Ser
770 775 780

Gly Glu Asn Cys Val Val Met Val Trp His Asp Gln Gly Gln Trp
785 790 795

Ser Asp Val Pro Cys Asn Tyr His Leu Ser Tyr Thr Cys Lys Met
800 805 810

Gly Leu Val Ser Cys Gly Pro Pro Pro Glu Leu Pro Leu Ala Gln
815 820 825

Val Phe Gly Arg Pro Arg Leu Arg Tyr Glu Val Asp Thr Val Leu
830 835 840

Arg Tyr Arg Cys Arg Glu Gly Leu Ala Gln Arg Asn Leu Pro Leu
845 850 855

Ile Arg Cys Gln Glu Asn Gly Arg Trp Glu Ala Pro Gln Ile Ser
860 865 870

Cys Val Pro Arg Arg Pro Ala Arg Ala Leu His Pro Glu Glu Asp
875 880 885

Pro Glu Gly Arg Gln Gly Arg Leu Leu Gly Arg Trp Lys Ala Leu
890 895 900

Leu Ile Pro Pro Ser Ser Pro Met Pro Gly Pro
905 910

<210> 22
<211> 987
<212> PRT
<213> Homo sapien

<400> 22

```
Met Ala Leu Arg Arg Leu Gly Ala Ala Leu Leu Leu Leu Pro Leu
  1               5                  10                  15

Leu Ala Ala Val Glu Glu Thr Leu Met Asp Ser Thr Thr Ala Thr
             20                  25                  30

Ala Glu Leu Gly Trp Met Val His Pro Pro Ser Gly Trp Glu Glu
             35                  40                  45

Val Ser Gly Tyr Asp Glu Asn Met Asn Thr Ile Arg Thr Tyr Gln
             50                  55                  60

Val Cys Asn Val Phe Glu Ser Ser Gln Asn Asn Trp Leu Arg Thr
             65                  70                  75

Lys Phe Ile Arg Arg Arg Gly Ala His Arg Ile His Val Glu Met
             80                  85                  90

Lys Phe Ser Val Arg Asp Cys Ser Ser Ile Pro Ser Val Pro Gly
             95                 100                 105

Ser Cys Lys Glu Thr Phe Asn Leu Tyr Tyr Tyr Glu Ala Asp Phe
            110                 115                 120

Asp Ser Ala Thr Lys Thr Phe Pro Asn Trp Met Glu Asn Pro Trp
            125                 130                 135

Val Lys Val Asp Thr Ile Ala Ala Asp Glu Ser Phe Ser Gln Val
            140                 145                 150

Asp Leu Gly Gly Arg Val Met Lys Ile Asn Thr Glu Val Arg Ser
            155                 160                 165

Phe Gly Pro Val Ser Arg Ser Gly Phe Tyr Leu Ala Phe Gln Asp
            170                 175                 180

Tyr Gly Gly Cys Met Ser Leu Ile Ala Val Arg Val Phe Tyr Arg
            185                 190                 195

Lys Cys Pro Arg Ile Ile Gln Asn Gly Ala Ile Phe Gln Glu Thr
            200                 205                 210

Leu Ser Gly Ala Glu Ser Thr Ser Leu Val Ala Ala Arg Gly Ser
            215                 220                 225

Cys Ile Ala Asn Ala Glu Glu Val Asp Val Pro Ile Lys Leu Tyr
            230                 235                 240

Cys Asn Gly Asp Gly Glu Trp Leu Val Pro Ile Gly Arg Cys Met
            245                 250                 255

Cys Lys Ala Gly Phe Glu Ala Val Glu Asn Gly Thr Val Cys Arg
            260                 265                 270
```

Gly Cys Pro Ser Gly Thr Phe Lys Ala Asn Gln Gly Asp Glu Ala
275 280 285

Cys Thr His Cys Pro Ile Asn Ser Arg Thr Thr Ser Glu Gly Ala
290 295 300

Thr Asn Cys Val Cys Arg Asn Gly Tyr Tyr Arg Ala Asp Leu Asp
305 310 315

Pro Leu Asp Met Pro Cys Thr Thr Ile Pro Ser Ala Pro Gln Ala
320 325 330

Val Ile Ser Ser Val Asn Glu Thr Ser Leu Met Leu Glu Trp Thr
335 340 345

Pro Pro Arg Asp Ser Gly Gly Arg Glu Asp Leu Val Tyr Asn Ile
350 355 360

Ile Cys Lys Ser Cys Gly Ser Gly Arg Gly Ala Cys Thr Arg Cys
365 370 375

Gly Asp Asn Val Gln Tyr Ala Pro Arg Gln Leu Gly Leu Thr Glu
380 385 390

Pro Arg Ile Tyr Ile Ser Asp Leu Leu Ala His Thr Gln Tyr Thr
395 400 405

Phe Glu Ile Gln Ala Val Asn Gly Val Thr Asp Gln Ser Pro Phe
410 415 420

Ser Pro Gln Phe Ala Ser Val Asn Ile Thr Thr Asn Gln Ala Ala
425 430 435

Pro Ser Ala Val Ser Ile Met His Gln Val Ser Arg Thr Val Asp
440 445 450

Ser Ile Thr Leu Ser Trp Ser Gln Pro Asp Gln Pro Asn Gly Val
455 460 465

Ile Leu Asp Tyr Glu Leu Gln Tyr Tyr Glu Lys Glu Leu Ser Glu
470 475 480

Tyr Asn Ala Thr Ala Ile Lys Ser Pro Thr Asn Thr Val Thr Val
485 490 495

Gln Gly Leu Lys Ala Gly Ala Ile Tyr Val Phe Gln Val Arg Ala
500 505 510

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

Gln Thr Met Thr Glu Ala Glu Tyr Gln Thr Ser Ile Gln Glu Lys
530 535 540

Leu Pro Leu Ile Ile Gly Ser Ser Ala Ala Gly Leu Val Phe Leu
545 550 555

Ile Ala Val Val Val Ile Ala Ile Val Cys Asn Arg Arg Arg Gly
560 565 570

Phe Glu Arg Ala Asp Ser Glu Tyr Thr Asp Lys Leu Gln His Tyr

575 580 585

Thr Ser Gly His Met Thr Pro Gly Met Lys Ile Tyr Ile Asp Pro
590 595 600

Phe Thr Tyr Glu Asp Pro Asn Glu Ala Val Arg Glu Phe Ala Lys
605 610 615

Glu Ile Asp Ile Ser Cys Val Lys Ile Glu Gln Val Ile Gly Ala
620 625 630

Gly Glu Phe Gly Glu Val Cys Ser Gly His Leu Lys Leu Pro Gly
635 640 645

Lys Arg Glu Ile Phe Val Ala Ile Lys Thr Leu Lys Ser Gly Tyr
650 655 660

Thr Glu Lys Gln Arg Arg Asp Phe Leu Ser Glu Ala Ser Ile Met
665 670 675

Gly Gln Phe Asp His Pro Asn Val Ile His Leu Glu Gly Val Val
680 685 690

Thr Lys Ser Thr Pro Val Met Ile Ile Thr Glu Phe Met Glu Asn
695 700 705

Gly Ser Leu Asp Ser Phe Leu Arg Gln Asn Asp Gly Gln Phe Thr
710 715 720

Val Ile Gln Leu Val Gly Met Leu Arg Gly Ile Ala Ala Gly Met
725 730 735

Lys Tyr Leu Ala Asp Met Asn Tyr Val His Arg Asp Leu Ala Ala
740 745 750

Arg Asn Ile Leu Val Asn Ser Asn Leu Val Cys Lys Val Ser Asp
755 760 765

Phe Gly Leu Ser Arg Phe Leu Glu Asp Asp Thr Ser Asp Pro Thr
770 775 780

Tyr Thr Ser Ala Leu Gly Gly Lys Ile Pro Ile Arg Trp Thr Ala
785 790 795

Pro Glu Ala Ile Gln Tyr Arg Lys Phe Thr Ser Ala Ser Asp Val
800 805 810

Trp Ser Tyr Gly Ile Val Met Trp Glu Val Met Ser Tyr Gly Glu
815 820 825

Arg Pro Tyr Trp Asp Met Thr Asn Gln Asp Val Ile Asn Ala Ile
830 835 840

Glu Gln Asp Tyr Arg Leu Pro Pro Pro Met Asp Cys Pro Ser Ala
845 850 855

Leu His Gln Leu Met Leu Asp Cys Trp Gln Lys Asp Arg Asn His
860 865 870

Arg Pro Lys Phe Gly Gln Ile Val Asn Thr Leu Asp Lys Met Ile
875 880 885

```
Arg Asn Pro Asn Ser Leu Lys Ala Met Ala Pro Leu Ser Ser Gly
                890                 895                 900

Ile Asn Leu Pro Leu Leu Asp Arg Thr Ile Pro Asp Tyr Thr Ser
                905                 910                 915

Phe Asn Thr Val Asp Glu Trp Leu Glu Ala Ile Lys Met Gly Gln
                920                 925                 930

Tyr Lys Glu Ser Phe Ala Asn Ala Gly Phe Thr Ser Phe Asp Val
                935                 940                 945

Val Ser Gln Met Met Met Glu Asp Ile Leu Arg Val Gly Val Thr
                950                 955                 960

Leu Ala Gly His Gln Lys Lys Ile Leu Asn Ser Ile Gln Val Met
                965                 970                 975

Arg Ala Gln Met Asn Gln Ile Gln Ser Val Glu Val
                980                 985
```

<210> 23
<211> 282
<212> PRT
<213> Homo sapien

<400> 23

```
Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile
  1               5                  10                  15

Ile Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly
                20                  25                  30

Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala
                35                  40                  45

Gly Asn Ile Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro
                50                  55                  60

Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly
                65                  70                  75

Val Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu
                80                  85                  90

Ser Glu Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala
                95                 100                 105

Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val
               110                 115                 120

Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser
               125                 130                 135

Lys Gly Lys Lys Asn Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe
               140                 145                 150

Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu Thr
               155                 160                 165
```

Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln Pro Thr Val Val
170 175 180

Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser Glu Val Ser
185 190 195

Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met Lys Val
200 205 210

Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser Cys
215 220 225

Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
230 235 240

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

Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile Ser Trp
260 265 270

Ala Leu Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys
275 280

<210> 24
<211> 123
<212> PRT
<213> Homo sapien

<400> 24
Met Lys Ala Val Leu Leu Ala Leu Leu Met Ala Gly Leu Ala Leu
1 5 10 15

Gln Pro Gly Thr Ala Leu Leu Cys Tyr Ser Cys Lys Ala Gln Val
20 25 30

Ser Asn Glu Asp Cys Leu Gln Val Glu Asn Cys Thr Gln Leu Gly
35 40 45

Glu Gln Cys Trp Thr Ala Arg Ile Arg Ala Val Gly Leu Leu Thr
50 55 60

Val Ile Ser Lys Gly Cys Ser Leu Asn Cys Val Asp Asp Ser Gln
65 70 75

Asp Tyr Tyr Val Gly Lys Lys Asn Ile Thr Cys Cys Asp Thr Asp
80 85 90

Leu Cys Asn Ala Ser Gly Ala His Ala Leu Gln Pro Ala Ala Ala
95 100 105

Ile Leu Ala Leu Leu Pro Ala Leu Gly Leu Leu Leu Trp Gly Pro
110 115 120

Gly Gln Leu

<210> 25
<211> 236
<212> PRT
<213> Homo sapien

<400> 25
Met Pro Gly Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Met
1 5 10 15

Leu Pro Ala Gln Glu Ala Ala Lys Leu Tyr His Thr Asn Tyr Val
20 25 30

Arg Asn Ser Arg Ala Ile Gly Val Leu Trp Ala Ile Phe Thr Ile
35 40 45

Cys Phe Ala Ile Val Asn Val Val Cys Phe Ile Gln Pro Tyr Trp
50 55 60

Ile Gly Asp Gly Val Asp Thr Pro Gln Ala Gly Tyr Phe Gly Leu
65 70 75

Phe His Tyr Cys Ile Gly Asn Gly Phe Ser Arg Glu Leu Thr Cys
80 85 90

Arg Gly Ser Phe Thr Asp Phe Ser Thr Leu Pro Ser Gly Ala Phe
95 100 105

Lys Ala Ala Ser Phe Phe Ile Gly Leu Ser Met Met Leu Ile Ile
110 115 120

Ala Cys Ile Ile Cys Phe Thr Leu Phe Phe Phe Cys Asn Thr Ala
125 130 135

Thr Val Tyr Lys Ile Cys Ala Trp Met Gln Leu Thr Ser Ala Ala
140 145 150

Cys Leu Val Leu Gly Cys Met Ile Phe Pro Asp Gly Trp Asp Ser
155 160 165

Asp Glu Val Lys Arg Met Cys Gly Glu Lys Thr Asp Lys Tyr Thr
170 175 180

Leu Gly Ala Cys Ser Val Arg Trp Ala Tyr Ile Leu Ala Ile Ile
185 190 195

Gly Ile Leu Asp Ala Leu Ile Leu Ser Phe Leu Ala Phe Val Leu
200 205 210

Gly Asn Arg Gln Asp Ser Leu Met Ala Glu Glu Leu Lys Ala Glu
215 220 225

Asn Lys Val Leu Leu Ser Gln Tyr Ser Leu Glu
230 235

<210> 26
<211> 184
<212> PRT
<213> Homo sapien

<400> 26
Met Arg Arg Gly Pro Arg Ser Leu Arg Gly Arg Asp Ala Pro Ala
1 5 10 15

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

```
His Cys Val Ala Cys Gly Leu Leu Arg Thr Pro Arg Pro Lys Pro
                    35                  40                  45

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

Glu Ser Val Gly Ala Gly Ala Gly Glu Ala Ala Leu Pro Leu Pro
                    65                  70                  75

Gly Leu Leu Phe Gly Ala Pro Ala Leu Leu Gly Leu Ala Leu Val
                    80                  85                  90

Leu Ala Leu Val Leu Val Gly Leu Val Ser Trp Arg Arg Arg Gln
                    95                  100                 105

Arg Arg Leu Arg Gly Ala Ser Ser Ala Glu Ala Pro Asp Gly Asp
                    110                 115                 120

Lys Asp Ala Pro Glu Pro Leu Asp Lys Val Ile Ile Leu Ser Pro
                    125                 130                 135

Gly Ile Ser Asp Ala Thr Ala Pro Ala Trp Pro Pro Pro Gly Glu
                    140                 145                 150

Asp Pro Gly Thr Thr Pro Pro Gly His Ser Val Pro Val Pro Ala
                    155                 160                 165

Thr Glu Leu Gly Ser Thr Glu Leu Val Thr Thr Lys Thr Ala Gly
                    170                 175                 180

Pro Glu Gln Gln
```

<210> 27
<211> 847
<212> PRT
<213> Homo sapien

<400> 27

```
Met His Leu Leu Gly Pro Trp Leu Leu Leu Leu Val Leu Glu Tyr
  1                 5                  10                  15

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

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

Tyr Arg Ala Leu Asp Gly Asp Leu Glu Ser Phe Ile Leu Phe His
                    50                  55                  60

Asn Pro Glu Tyr Asn Lys Asn Thr Ser Lys Phe Asp Gly Thr Arg
                    65                  70                  75

Leu Tyr Glu Ser Thr Lys Asp Gly Lys Val Pro Ser Glu Gln Lys
                    80                  85                  90

Arg Val Gln Phe Leu Gly Asp Lys Asn Lys Asn Cys Thr Leu Ser
                    95                  100                 105
```

Ile His Pro Val His Leu Asn Asp Ser Gly Gln Leu Gly Leu Arg
110 115 120

Met Glu Ser Lys Thr Glu Lys Trp Met Glu Arg Ile His Leu Asn
125 130 135

Val Ser Glu Arg Pro Phe Pro Pro His Ile Gln Leu Pro Pro Glu
140 145 150

Ile Gln Glu Ser Gln Glu Val Thr Leu Thr Cys Leu Leu Asn Phe
155 160 165

Ser Cys Tyr Gly Tyr Pro Ile Gln Leu Gln Trp Leu Leu Glu Gly
170 175 180

Val Pro Met Arg Gln Ala Ala Val Thr Ser Thr Ser Leu Thr Ile
185 190 195

Lys Ser Val Phe Thr Arg Ser Glu Leu Lys Phe Ser Pro Gln Trp
200 205 210

Ser His His Gly Lys Ile Val Thr Cys Gln Leu Gln Asp Ala Asp
215 220 225

Gly Lys Phe Leu Ser Asn Asp Thr Val Gln Leu Asn Val Lys His
230 235 240

Thr Pro Lys Leu Glu Ile Lys Val Thr Pro Ser Asp Ala Ile Val
245 250 255

Arg Glu Gly Asp Ser Val Thr Met Thr Cys Glu Val Ser Ser Ser
260 265 270

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

Leu Lys Lys Gln Asn Thr Phe Thr Leu Asn Leu Arg Glu Val Thr
290 295 300

Lys Asp Gln Ser Gly Lys Tyr Cys Cys Gln Val Ser Asn Asp Val
305 310 315

Gly Pro Gly Arg Ser Glu Glu Val Phe Leu Gln Val Gln Tyr Ala
320 325 330

Pro Glu Pro Ser Thr Val Gln Ile Leu His Ser Pro Ala Val Glu
335 340 345

Gly Ser Gln Val Glu Phe Leu Cys Met Ser Leu Ala Asn Pro Leu
350 355 360

Pro Thr Asn Tyr Thr Trp Tyr His Asn Gly Lys Glu Met Gln Gly
365 370 375

Arg Thr Glu Glu Lys Val His Ile Pro Lys Ile Leu Pro Trp His
380 385 390

Ala Gly Thr Tyr Ser Cys Val Ala Glu Asn Ile Leu Gly Thr Gly
395 400 405

Gln Arg Gly Pro Gly Ala Glu Leu Asp Val Gln Tyr Pro Pro Lys

410 415 420

Lys Val Thr Thr Val Ile Gln Asn Pro Met Pro Ile Arg Glu Gly
425 430 435

Asp Thr Val Thr Leu Ser Cys Asn Tyr Asn Ser Ser Asn Pro Ser
440 445 450

Val Thr Arg Tyr Glu Trp Lys Pro His Gly Ala Trp Glu Glu Pro
455 460 465

Ser Leu Gly Val Leu Lys Ile Gln Asn Val Gly Trp Asp Asn Thr
470 475 480

Thr Ile Ala Cys Ala Arg Cys Asn Ser Trp Cys Ser Trp Ala Ser
485 490 495

Pro Val Ala Leu Asn Val Gln Tyr Ala Pro Arg Asp Val Arg Val
500 505 510

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

Ser Leu Gln Cys Asp Phe Ser Ser Ser His Pro Lys Glu Val Gln
530 535 540

Phe Phe Trp Glu Lys Asn Gly Arg Leu Leu Gly Lys Glu Ser Gln
545 550 555

Leu Asn Phe Asp Ser Ile Ser Pro Glu Asp Ala Gly Ser Tyr Ser
560 565 570

Cys Trp Val Asn Asn Ser Ile Gly Gln Thr Ala Ser Lys Ala Trp
575 580 585

Thr Leu Glu Val Leu Tyr Ala Pro Arg Arg Leu Arg Val Ser Met
590 595 600

Ser Pro Gly Asp Gln Val Met Glu Gly Lys Ser Ala Thr Leu Thr
605 610 615

Cys Glu Ser Asp Ala Asn Pro Pro Val Ser His Tyr Thr Trp Phe
620 625 630

Asp Trp Asn Asn Gln Ser Leu Pro His His Ser Gln Lys Leu Arg
635 640 645

Leu Glu Pro Val Lys Val Gln His Ser Gly Ala Tyr Trp Cys Gln
650 655 660

Gly Thr Asn Ser Val Gly Lys Gly Arg Ser Pro Leu Ser Thr Leu
665 670 675

Thr Val Tyr Tyr Ser Pro Glu Thr Ile Gly Arg Arg Val Ala Val
680 685 690

Gly Leu Gly Ser Cys Leu Ala Ile Leu Ile Leu Ala Ile Cys Gly
695 700 705

Leu Lys Leu Gln Arg Arg Trp Lys Arg Thr Gln Ser Gln Gln Gly
710 715 720

```
Leu Gln Glu Asn Ser Ser Gly Gln Ser Phe Phe Val Arg Asn Lys
                725                 730                 735

Lys Val Arg Arg Ala Pro Leu Ser Glu Gly Pro His Ser Leu Gly
                740                 745                 750

Cys Tyr Asn Pro Met Met Glu Asp Gly Ile Ser Tyr Thr Thr Leu
                755                 760                 765

Arg Phe Pro Glu Met Asn Ile Pro Arg Thr Gly Asp Ala Glu Ser
                770                 775                 780

Ser Glu Met Gln Arg Pro Pro Arg Thr Cys Asp Asp Thr Val Thr
                785                 790                 795

Tyr Ser Ala Leu His Lys Arg Gln Val Gly Asp Tyr Glu Asn Val
                800                 805                 810

Ile Pro Asp Phe Pro Glu Asp Glu Gly Ile His Tyr Ser Glu Leu
                815                 820                 825

Ile Gln Phe Gly Val Gly Glu Arg Pro Gln Ala Gln Glu Asn Val
                830                 835                 840

Asp Tyr Val Ile Leu Lys His
                845
```

<210> 28
<211> 226
<212> PRT
<213> Homo sapien

<400> 28

```
 Met Pro Gly Gly Pro Gly Val Leu Gln Ala Leu Pro Ala Thr Ile
   1               5                  10                  15

 Phe Leu Leu Phe Leu Leu Ser Ala Val Tyr Leu Gly Pro Gly Cys
                20                  25                  30

 Gln Ala Leu Trp Met His Lys Val Pro Ala Ser Leu Met Val Ser
                35                  40                  45

 Leu Gly Glu Asp Ala His Phe Gln Cys Pro His Asn Ser Ser Asn
                50                  55                  60

 Asn Ala Asn Val Thr Trp Trp Arg Val Leu His Gly Asn Tyr Thr
                65                  70                  75

 Trp Pro Pro Glu Phe Leu Gly Pro Gly Glu Asp Pro Asn Gly Thr
                80                  85                  90

 Leu Ile Ile Gln Asn Val Asn Lys Ser His Gly Gly Ile Tyr Val
                95                 100                 105

 Cys Arg Val Gln Glu Gly Asn Glu Ser Tyr Gln Gln Ser Cys Gly
                110                 115                 120

 Thr Tyr Leu Arg Val Arg Gln Pro Pro Pro Arg Pro Phe Leu Asp
                125                 130                 135
```

Met Gly Glu Gly Thr Lys Asn Arg Ile Ile Thr Ala Glu Gly Ile
140 145 150

Ile Leu Leu Phe Cys Ala Val Val Pro Gly Thr Leu Leu Leu Phe
155 160 165

Arg Lys Arg Trp Gln Asn Glu Lys Leu Gly Leu Asp Ala Gly Asp
170 175 180

Glu Tyr Glu Asp Glu Asn Leu Tyr Glu Gly Leu Asn Leu Asp Asp
185 190 195

Cys Ser Met Tyr Glu Asp Ile Ser Arg Gly Leu Gln Gly Thr Tyr
200 205 210

Gln Asp Val Gly Ser Leu Asn Ile Gly Asp Val Gln Leu Glu Lys
215 220 225

Pro

<210> 29
<211> 372
<212> PRT
<213> Homo sapien

<400> 29
Met Asn Tyr Pro Leu Thr Leu Glu Met Asp Leu Glu Asn Leu Glu
1 5 10 15

Asp Leu Phe Trp Glu Leu Asp Arg Leu Asp Asn Tyr Asn Asp Thr
20 25 30

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

Met Ala Ser Phe Lys Ala Val Phe Val Pro Val Ala Tyr Ser Leu
50 55 60

Ile Phe Leu Leu Gly Val Ile Gly Asn Val Leu Val Leu Val Ile
65 70 75

Leu Glu Arg His Arg Gln Thr Arg Ser Ser Thr Glu Thr Phe Leu
80 85 90

Phe His Leu Ala Val Ala Asp Leu Leu Leu Val Phe Ile Leu Pro
95 100 105

Phe Ala Val Ala Glu Gly Ser Val Gly Trp Val Leu Gly Thr Phe
110 115 120

Leu Cys Lys Thr Val Ile Ala Leu His Lys Val Asn Phe Tyr Cys
125 130 135

Ser Ser Leu Leu Leu Ala Cys Ile Ala Val Asp Arg Tyr Leu Ala
140 145 150

Ile Val His Ala Val His Ala Tyr Arg His Arg Arg Leu Leu Ser
155 160 165

Ile His Ile Thr Cys Gly Thr Ile Trp Leu Val Gly Phe Leu Leu

```
                  170                 175                 180

 Ala Leu Pro Glu Ile Leu Phe Ala Lys Val Ser Gln Gly His His
                  185                 190                 195

 Asn Asn Ser Leu Pro Arg Cys Thr Phe Ser Gln Glu Asn Gln Ala
                  200                 205                 210

 Glu Thr His Ala Trp Phe Thr Ser Arg Phe Leu Tyr His Val Ala
                  215                 220                 225

 Gly Phe Leu Leu Pro Met Leu Val Met Gly Trp Cys Tyr Val Gly
                  230                 235                 240

 Val Val His Arg Leu Arg Gln Ala Gln Arg Arg Pro Gln Arg Gln
                  245                 250                 255

 Lys Ala Val Arg Val Ala Ile Leu Val Thr Ser Ile Phe Phe Leu
                  260                 265                 270

 Cys Trp Ser Pro Tyr His Ile Val Ile Phe Leu Asp Thr Leu Ala
                  275                 280                 285

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

 Pro Val Ala Ile Thr Met Cys Glu Phe Leu Gly Leu Ala His Cys
                  305                 310                 315

 Cys Leu Asn Pro Met Leu Tyr Thr Phe Ala Gly Val Lys Phe Arg
                  320                 325                 330

 Ser Asp Leu Ser Arg Leu Leu Thr Lys Leu Gly Cys Thr Gly Pro
                  335                 340                 345

 Ala Ser Leu Cys Gln Leu Phe Pro Ser Trp Arg Arg Ser Ser Leu
                  350                 355                 360

 Ser Glu Ser Glu Asn Ala Thr Ser Leu Thr Thr Phe
                  365                 370

<210> 30
<211> 273
<212> PRT
<213> Homo sapien

<400> 30
 Met Gly Ser Gly Trp Val Pro Trp Val Val Ala Leu Leu Val Asn
   1               5                  10                  15

 Leu Thr Arg Leu Asp Ser Ser Met Thr Gln Gly Thr Asp Ser Pro
                  20                  25                  30

 Glu Asp Phe Val Ile Gln Ala Lys Ala Asp Cys Tyr Phe Thr Asn
                  35                  40                  45

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

 Glu Glu Tyr Val Arg Phe Asp Ser Asp Val Gly Met Phe Val Ala
                  65                  70                  75
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Leu Thr Lys Leu Gly Gln Pro Asp Ala Glu Gln Trp Asn Ser Arg
80 85 90

Leu Asp Leu Leu Glu Arg Ser Arg Gln Ala Val Asp Gly Val Cys
95 100 105

Arg His Asn Tyr Arg Leu Gly Ala Pro Phe Thr Val Gly Arg Lys
110 115 120

Val Gln Pro Glu Val Thr Val Tyr Pro Glu Arg Thr Pro Leu Leu
125 130 135

His Gln His Asn Leu Leu His Cys Ser Val Thr Gly Phe Tyr Pro
140 145 150

Gly Asp Ile Lys Ile Lys Trp Phe Leu Asn Gly Gln Glu Glu Arg
155 160 165

Ala Gly Val Met Ser Thr Gly Pro Ile Arg Asn Gly Asp Trp Thr
170 175 180

Phe Gln Thr Val Val Met Leu Glu Met Thr Pro Glu Leu Gly His
185 190 195

Val Tyr Thr Cys Leu Val Asp His Ser Ser Leu Leu Ser Pro Val
200 205 210

Ser Val Glu Trp Arg Ala Gln Ser Glu Tyr Ser Trp Arg Lys Met
215 220 225

Leu Ser Gly Ile Ala Ala Phe Leu Leu Gly Leu Ile Phe Leu Leu
230 235 240

Val Gly Ile Val Ile Gln Leu Arg Ala Gln Lys Gly Tyr Val Arg
245 250 255

Thr Gln Met Ser Gly Asn Glu Val Ser Arg Ala Val Leu Leu Pro
260 265 270

Gln Ser Cys

<210> 31
<211> 422
<212> PRT
<213> Homo sapien

<400> 31
Met Gly Gln Ala Gly Cys Lys Gly Leu Cys Leu Ser Leu Phe Asp
1 5 10 15

Tyr Lys Thr Glu Lys Tyr Val Ile Ala Lys Asn Lys Lys Val Gly
20 25 30

Leu Leu Tyr Arg Leu Leu Gln Ala Ser Ile Leu Ala Tyr Leu Val
35 40 45

Val Trp Val Phe Leu Ile Lys Lys Gly Tyr Gln Asp Val Asp Thr
50 55 60

Ser Leu Gln Ser Ala Val Ile Thr Lys Val Lys Gly Val Ala Phe
65 70 75

Thr Asn Thr Ser Asp Leu Gly Gln Arg Ile Trp Asp Val Ala Asp
80 85 90

Tyr Val Ile Pro Ala Gln Gly Glu Asn Val Phe Phe Val Val Thr
95 100 105

Asn Leu Ile Val Thr Pro Asn Gln Arg Gln Asn Val Cys Ala Glu
110 115 120

Asn Glu Gly Ile Pro Asp Gly Ala Cys Ser Lys Asp Ser Asp Cys
125 130 135

His Ala Gly Glu Ala Val Thr Ala Gly Asn Gly Val Lys Thr Gly
140 145 150

Arg Cys Leu Arg Arg Glu Asn Leu Ala Arg Gly Thr Cys Glu Ile
155 160 165

Phe Ala Trp Cys Pro Leu Glu Thr Ser Ser Arg Pro Glu Glu Pro
170 175 180

Phe Leu Lys Glu Ala Glu Asp Phe Thr Ile Phe Ile Lys Asn His
185 190 195

Ile Arg Phe Pro Lys Phe Asn Phe Ser Lys Ser Asn Val Met Asp
200 205 210

Val Lys Asp Arg Ser Phe Leu Lys Ser Cys His Phe Gly Pro Lys
215 220 225

Asn His Tyr Cys Pro Ile Phe Arg Leu Gly Ser Val Ile Arg Trp
230 235 240

Ala Gly Ser Asp Phe Gln Asp Ile Ala Leu Glu Gly Gly Val Ile
245 250 255

Gly Ile Asn Ile Glu Trp Asn Cys Asp Leu Asp Lys Ala Ala Ser
260 265 270

Glu Cys His Pro His Tyr Ser Phe Ser Arg Leu Asp Asn Lys Leu
275 280 285

Ser Lys Ser Val Ser Ser Gly Tyr Asn Phe Arg Phe Ala Arg Tyr
290 295 300

Tyr Arg Asp Ala Ala Gly Val Glu Phe Arg Thr Leu Met Lys Ala
305 310 315

Tyr Gly Ile Arg Phe Asp Val Met Val Asn Gly Lys Gly Ala Phe
320 325 330

Phe Cys Asp Leu Val Leu Ile Tyr Leu Ile Lys Lys Arg Glu Phe
335 340 345

Tyr Arg Asp Lys Lys Tyr Glu Glu Val Arg Gly Leu Glu Asp Ser
350 355 360

Ser Gln Glu Ala Glu Asp Glu Ala Ser Gly Leu Gly Leu Ser Glu

365 370 375

Gln Leu Thr Ser Gly Pro Gly Leu Leu Gly Met Pro Glu Gln Gln
380 385 390

Glu Leu Gln Glu Pro Pro Glu Ala Lys Arg Gly Ser Ser Ser Gln
395 400 405

Lys Gly Asn Gly Ser Val Cys Pro Gln Leu Leu Glu Pro His Arg
410 415 420

Ser Thr

<210> 32
<211> 359
<212> PRT
<213> Homo sapien

<400> 32
Met Ala Glu Ala Ile Thr Tyr Ala Asp Leu Arg Phe Val Lys Ala
1 5 10 15

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

Ala Asp Asp Asp Gly Glu Ile Thr Tyr Glu Asn Val Gln Val Pro
35 40 45

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

Asp Lys Ala Ala Val Lys Ser Glu Gln Pro Thr Ala Ser Trp Arg
65 70 75

Ala Val Thr Ser Pro Ala Val Gly Arg Ile Leu Pro Cys Arg Thr
80 85 90

Thr Cys Leu Arg Tyr Leu Leu Leu Gly Leu Leu Leu Thr Cys Leu
95 100 105

Leu Leu Gly Val Thr Ala Ile Cys Leu Gly Val Arg Tyr Leu Gln
110 115 120

Val Ser Gln Gln Leu Gln Gln Thr Asn Arg Val Leu Glu Val Thr
125 130 135

Asn Ser Ser Leu Arg Gln Gln Leu Arg Leu Lys Ile Thr Gln Leu
140 145 150

Gly Gln Ser Ala Glu Asp Leu Gln Gly Ser Arg Arg Glu Leu Ala
155 160 165

Gln Ser Gln Glu Ala Leu Gln Val Glu Gln Arg Ala His Gln Ala
170 175 180

Ala Glu Gly Gln Leu Gln Ala Cys Gln Ala Asp Arg Gln Lys Thr
185 190 195

Lys Glu Thr Leu Gln Ser Glu Glu Gln Gln Arg Arg Ala Leu Glu
200 205 210

Gln Lys Leu Ser Asn Met Glu Asn Arg Leu Lys Pro Phe Phe Thr
215 220 225

Cys Gly Ser Ala Asp Thr Cys Cys Pro Ser Gly Trp Ile Met His
230 235 240

Gln Lys Ser Cys Phe Tyr Ile Ser Leu Thr Ser Lys Asn Trp Gln
245 250 255

Glu Ser Gln Lys Gln Cys Glu Thr Leu Ser Ser Lys Leu Ala Thr
260 265 270

Phe Ser Glu Ile Tyr Pro Gln Ser His Ser Tyr Tyr Phe Leu Asn
275 280 285

Ser Leu Leu Pro Asn Gly Gly Ser Gly Asn Ser Tyr Trp Thr Gly
290 295 300

Leu Ser Ser Asn Lys Asp Trp Lys Leu Thr Asp Asp Thr Gln Arg
305 310 315

Thr Arg Thr Tyr Ala Gln Ser Ser Lys Cys Asn Lys Val His Lys
320 325 330

Thr Trp Ser Trp Trp Thr Leu Glu Ser Glu Ser Cys Arg Ser Ser
335 340 345

Leu Pro Tyr Ile Cys Glu Met Thr Ala Phe Arg Phe Pro Asp
350 355

<210> 33
<211> 661
<212> PRT
<213> Homo sapien

<400> 33
Met Ala Phe Asp Val Ser Cys Phe Phe Trp Val Val Leu Phe Ser
1 5 10 15

Ala Gly Cys Lys Val Ile Thr Ser Trp Asp Gln Met Cys Ile Glu
20 25 30

Lys Glu Ala Asn Lys Thr Tyr Asn Cys Glu Asn Leu Gly Leu Ser
35 40 45

Glu Ile Pro Asp Thr Leu Pro Asn Thr Thr Glu Phe Leu Glu Phe
50 55 60

Ser Phe Asn Phe Leu Pro Thr Ile His Asn Arg Thr Phe Ser Arg
65 70 75

Leu Met Asn Leu Thr Phe Leu Asp Leu Thr Arg Cys Gln Ile Asn
80 85 90

Trp Ile His Glu Asp Thr Phe Gln Ser His His Gln Leu Ser Thr
95 100 105

Leu Val Leu Thr Gly Asn Pro Leu Ile Phe Met Ala Glu Thr Ser
110 115 120

Leu Asn Gly Pro Lys Ser Leu Lys His Leu Phe Leu Ile Gln Thr
125 130 135

Gly Ile Ser Asn Leu Glu Phe Ile Pro Val His Asn Leu Glu Asn
140 145 150

Leu Glu Ser Leu Tyr Leu Gly Ser Asn His Ile Ser Ser Ile Lys
155 160 165

Phe Pro Lys Asp Phe Pro Ala Arg Asn Leu Lys Val Leu Asp Phe
170 175 180

Gln Asn Asn Ala Ile His Tyr Ile Ser Arg Glu Asp Met Arg Ser
185 190 195

Leu Glu Gln Ala Ile Asn Leu Ser Leu Asn Phe Asn Gly Asn Asn
200 205 210

Val Lys Gly Ile Glu Leu Gly Ala Phe Asp Ser Thr Val Phe Gln
215 220 225

Ser Leu Asn Phe Gly Gly Thr Pro Asn Leu Ser Val Ile Phe Asn
230 235 240

Gly Leu Gln Asn Ser Thr Thr Gln Ser Leu Trp Leu Gly Thr Phe
245 250 255

Glu Asp Ile Asp Asp Glu Asp Ile Ser Ser Ala Met Leu Lys Gly
260 265 270

Leu Cys Glu Met Ser Val Glu Ser Leu Asn Leu Gln Glu His Arg
275 280 285

Phe Ser Asp Ile Ser Ser Thr Thr Phe Gln Cys Phe Thr Gln Leu
290 295 300

Gln Glu Leu Asp Leu Thr Ala Thr His Leu Lys Gly Leu Pro Ser
305 310 315

Gly Met Lys Gly Leu Asn Leu Leu Lys Lys Leu Val Leu Ser Val
320 325 330

Asn His Phe Asp Gln Leu Cys Gln Ile Ser Ala Ala Asn Phe Pro
335 340 345

Ser Leu Thr His Leu Tyr Ile Arg Gly Asn Val Lys Lys Leu His
350 355 360

Leu Gly Val Gly Cys Leu Glu Lys Leu Gly Asn Leu Gln Thr Leu
365 370 375

Asp Leu Ser His Asn Asp Ile Glu Ala Ser Asp Cys Cys Ser Leu
380 385 390

Gln Leu Lys Asn Leu Ser His Leu Gln Thr Leu Asn Leu Ser His
395 400 405

Asn Glu Pro Leu Gly Leu Gln Ser Gln Ala Phe Lys Glu Cys Pro
410 415 420

Gln Leu Glu Leu Leu Asp Leu Ala Phe Thr Arg Leu His Ile Asn

425 430 435

Ala Pro Gln Ser Pro Phe Gln Asn Leu His Phe Leu Gln Val Leu
440 445 450

Asn Leu Thr Tyr Cys Phe Leu Asp Thr Ser Asn Gln His Leu Leu
455 460 465

Ala Gly Leu Pro Val Leu Arg His Leu Asn Leu Lys Gly Asn His
470 475 480

Phe Gln Asp Gly Thr Ile Thr Lys Thr Asn Leu Leu Gln Thr Val
485 490 495

Gly Ser Leu Glu Val Leu Ile Leu Ser Ser Cys Gly Leu Leu Ser
500 505 510

Ile Asp Gln Gln Ala Phe His Ser Leu Gly Lys Met Ser His Val
515 520 525

Asp Leu Ser His Asn Ser Leu Thr Cys Asp Ser Ile Asp Ser Leu
530 535 540

Ser His Leu Lys Gly Ile Tyr Leu Asn Leu Ala Ala Asn Ser Ile
545 550 555

Asn Ile Ile Ser Pro Arg Leu Leu Pro Ile Leu Ser Gln Gln Ser
560 565 570

Thr Ile Asn Leu Ser His Asn Pro Leu Asp Cys Thr Cys Ser Asn
575 580 585

Ile His Phe Leu Thr Trp Tyr Lys Glu Asn Leu His Lys Leu Glu
590 595 600

Gly Ser Glu Glu Thr Thr Cys Ala Asn Pro Pro Ser Leu Arg Gly
605 610 615

Val Lys Leu Ser Asp Val Lys Leu Ser Cys Gly Ile Thr Ala Ile
620 625 630

Gly Ile Phe Phe Leu Ile Val Phe Leu Leu Leu Leu Ala Ile Leu
635 640 645

Leu Phe Phe Ala Val Lys Tyr Leu Leu Arg Trp Lys Tyr Gln His
650 655 660

Ile

<210> 34
<211> 429
<212> PRT
<213> Sarcophaga bullata

<400> 34
Met Leu Pro Arg Leu Leu Leu Leu Ile Cys Ala Pro Leu Cys Glu
1 5 10 15

Pro Ala Glu Leu Phe Leu Ile Ala Ser Pro Ser His Pro Thr Glu
20 25 30

Gly Ser Pro Val Thr Leu Thr Cys Lys Met Pro Phe Leu Gln Ser
35 40 45

Ser Asp Ala Gln Phe Gln Phe Cys Phe Phe Arg Asp Thr Arg Ala
50 55 60

Leu Gly Pro Gly Trp Ser Ser Ser Pro Lys Leu Gln Ile Ala Ala
65 70 75

Met Trp Lys Glu Asp Thr Gly Ser Tyr Trp Cys Glu Ala Gln Thr
80 85 90

Met Ala Ser Lys Val Leu Arg Ser Arg Arg Ser Gln Ile Asn Val
95 100 105

His Arg Val Pro Val Ala Asp Val Ser Leu Glu Thr Gln Pro Pro
110 115 120

Gly Gly Gln Val Met Glu Gly Asp Arg Leu Val Leu Ile Cys Ser
125 130 135

Val Ala Met Gly Thr Gly Asp Ile Thr Phe Leu Trp Tyr Lys Gly
140 145 150

Ala Val Gly Leu Asn Leu Gln Ser Lys Thr Gln Arg Ser Leu Thr
155 160 165

Ala Glu Tyr Glu Ile Pro Ser Val Arg Glu Ser Asp Ala Glu Gln
170 175 180

Tyr Tyr Cys Val Ala Glu Asn Gly Tyr Gly Pro Ser Pro Ser Gly
185 190 195

Leu Val Ser Ile Thr Val Arg Ile Pro Val Ser Arg Pro Ile Leu
200 205 210

Met Leu Arg Ala Pro Arg Ala Gln Ala Ala Val Glu Asp Val Leu
215 220 225

Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro Pro Ile Leu Tyr
230 235 240

Trp Phe Tyr His Glu Asp Ile Thr Leu Gly Ser Arg Ser Ala Pro
245 250 255

Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Glu Glu His
260 265 270

Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu Gly Ala Gln
275 280 285

Arg Ser Glu Ala Val Thr Leu Asn Phe Thr Val Pro Thr Gly Ala
290 295 300

Arg Ser Asn His Leu Thr Ser Gly Val Ile Glu Gly Leu Leu Ser
305 310 315

Thr Leu Gly Pro Ala Thr Val Ala Leu Leu Phe Cys Tyr Gly Leu
320 325 330

Lys Arg Lys Ile Gly Arg Arg Ser Ala Arg Asp Pro Leu Arg Ser
325 340 345

Leu Pro Ser Pro Leu Pro Gln Glu Phe Thr Tyr Leu Asn Ser Pro
350 355 360

Thr Pro Gly Gln Leu Gln Pro Ile Tyr Glu Asn Val Asn Val Val
365 370 375

Ser Gly Asp Glu Val Tyr Ser Leu Ala Tyr Tyr Asn Gln Pro Glu
380 385 390

Gln Glu Ser Val Ala Ala Glu Thr Leu Gly Thr His Met Glu Asp
395 400 405

Lys Val Ser Leu Asp Ile Tyr Ser Arg Leu Arg Lys Ala Asn Ile
410 415 420

Thr Asp Val Asp Tyr Glu Asp Ala Met
425

<210> 35
<211> 977
<212> PRT
<213> Homo sapien

<400> 35
Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly
1 5 10 15

Gln Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro
20 25 30

Trp Thr Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys
35 40 45

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

Tyr Leu Gly Lys Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu
65 70 75

Glu Val Gln Glu Ser Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser
80 85 90

Pro Leu Ser Ser Pro Val His Leu Asp Phe Ser Ser Ala Ser Leu
95 100 105

Ile Leu Gln Ala Pro Leu Ser Val Phe Glu Gly Asp Ser Val Val
110 115 120

Leu Arg Cys Arg Ala Lys Ala Glu Val Thr Leu Asn Asn Thr Ile
125 130 135

Tyr Lys Asn Asp Asn Val Leu Ala Phe Leu Asn Lys Arg Thr Asp
140 145 150

Phe His Ile Pro His Ala Cys Leu Lys Asp Asn Gly Ala Tyr Arg
155 160 165

Cys Thr Gly Tyr Lys Glu Ser Cys Cys Pro Val Ser Ser Asn Thr

170 175 180

Val Lys Ile Gln Val Gln Glu Pro Phe Thr Arg Pro Val Leu Arg
185 190 195

Ala Ser Ser Phe Gln Pro Ile Ser Gly Asn Pro Val Thr Leu Thr
200 205 210

Cys Glu Thr Gln Leu Ser Leu Glu Arg Ser Asp Val Pro Leu Arg
215 220 225

Phe Arg Phe Phe Arg Asp Asp Gln Thr Leu Gly Leu Gly Trp Ser
230 235 240

Leu Ser Pro Asn Phe Gln Ile Thr Ala Met Trp Ser Lys Asp Ser
245 250 255

Gly Phe Tyr Trp Cys Lys Ala Ala Thr Met Pro His Ser Val Ile
260 265 270

Ser Asp Ser Pro Arg Ser Trp Ile Gln Val Gln Ile Pro Ala Ser
275 280 285

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

Gly Thr Lys Val Thr Leu His Cys Glu Thr Gln Glu Asp Ser Leu
305 310 315

Arg Thr Leu Tyr Arg Phe Tyr His Glu Gly Val Pro Leu Arg His
320 325 330

Lys Ser Val Arg Cys Glu Arg Gly Ala Ser Ile Ser Phe Ser Leu
335 340 345

Thr Thr Glu Asn Ser Gly Asn Tyr Tyr Cys Thr Ala Asp Asn Gly
350 355 360

Leu Gly Ala Lys Pro Ser Lys Ala Val Ser Leu Ser Val Thr Val
365 370 375

Pro Val Ser His Pro Val Leu Asn Leu Ser Ser Pro Glu Asp Leu
380 385 390

Ile Phe Glu Gly Ala Lys Val Thr Leu His Cys Glu Ala Gln Arg
395 400 405

Gly Ser Leu Pro Ile Leu Tyr Gln Phe His His Glu Asp Ala Ala
410 415 420

Leu Glu Arg Arg Ser Ala Asn Ser Ala Gly Gly Val Ala Ile Ser
425 430 435

Phe Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Tyr Cys Thr Ala
440 445 450

Asp Asn Gly Phe Gly Pro Gln Arg Ser Lys Ala Val Ser Leu Ser
455 460 465

Ile Thr Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala
470 475 480

Glu Ala Leu Thr Phe Glu Gly Ala Thr Val Thr Leu His Cys Glu
485 490 495

Val Gln Arg Gly Ser Pro Gln Ile Leu Tyr Gln Phe Tyr His Glu
500 505 510

Asp Met Pro Leu Trp Ser Ser Ser Thr Pro Ser Val Gly Arg Val
515 520 525

Ser Phe Ser Phe Ser Leu Thr Glu Gly His Ser Gly Asn Tyr Tyr
530 535 540

Cys Thr Ala Asp Asn Gly Phe Gly Pro Gln Arg Ser Glu Val Val
545 550 555

Ser Leu Phe Val Thr Val Pro Val Ser Arg Pro Ile Leu Thr Leu
560 565 570

Arg Val Pro Arg Ala Gln Ala Val Val Gly Asp Leu Leu Glu Leu
575 580 585

His Cys Glu Ala Pro Arg Gly Ser Pro Pro Ile Leu Tyr Trp Phe
590 595 600

Tyr His Glu Asp Val Thr Leu Gly Ser Ser Ser Ala Pro Ser Gly
605 610 615

Gly Glu Ala Ser Phe Asn Leu Ser Leu Thr Ala Glu His Ser Gly
620 625 630

Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu Val Ala Gln His Ser
635 640 645

Asp Thr Ile Ser Leu Ser Val Ile Val Pro Val Ser Arg Pro Ile
650 655 660

Leu Thr Phe Arg Ala Pro Arg Ala Gln Ala Val Val Gly Asp Leu
665 670 675

Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Ser Pro Ile Leu
680 685 690

Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly Lys Ile Ser Ala
695 700 705

Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Thr Glu
710 715 720

His Ser Gly Ile Tyr Ser Cys Glu Ala Asp Asn Gly Pro Glu Ala
725 730 735

Gln Arg Ser Glu Met Val Thr Leu Lys Val Ala Val Pro Val Ser
740 745 750

Arg Pro Val Leu Thr Leu Arg Ala Pro Gly Thr His Ala Ala Val
755 760 765

Gly Asp Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro
770 775 780

Leu Ile Leu Tyr Arg Phe Phe His Glu Asp Val Thr Leu Gly Asn
785 790 795

Arg Ser Ser Pro Ser Gly Gly Ala Ser Leu Asn Leu Ser Leu Thr
800 805 810

Ala Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asp Asn Gly Leu
815 820 825

Gly Ala Gln Arg Ser Glu Thr Val Thr Leu Tyr Ile Thr Gly Leu
830 835 840

Thr Ala Asn Arg Ser Gly Pro Phe Ala Thr Gly Val Ala Gly Gly
845 850 855

Leu Leu Ser Ile Ala Gly Leu Ala Ala Gly Ala Leu Leu Leu Tyr
860 865 870

Cys Trp Leu Ser Arg Lys Ala Gly Arg Lys Pro Ala Ser Asp Pro
875 880 885

Ala Arg Ser Pro Pro Asp Ser Asp Ser Gln Glu Pro Thr Tyr His
890 895 900

Asn Val Pro Ala Trp Glu Glu Leu Gln Pro Val Tyr Thr Asn Ala
905 910 915

Asn Pro Arg Gly Glu Asn Val Val Tyr Ser Glu Val Arg Ile Ile
920 925 930

Gln Glu Lys Lys Lys His Ala Val Ala Ser Asp Pro Arg His Leu
935 940 945

Arg Asn Lys Gly Ser Pro Ile Ile Tyr Ser Glu Val Lys Val Ala
950 955 960

Ser Thr Pro Val Ser Gly Ser Leu Phe Leu Ala Ser Ser Ala Pro
965 970 975

His Arg