SEQUENCE LISTING

<110> Angioblast Systems, Inc.

<120> Treatment of eye diseases and excessive neovascularization using combined therapy

<130> 508216

<150> US 61/133,607
<151> 2008-06-30

<150> AU 2008903349
<151> 2008-06-30

<160> 16

<170> PatentIn version 3.5

<210> 1
<211> 206
<212> PRT
<213> Homo sapiens

<400> 1

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Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys
1               5                  10                  15

Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu
            20                  25                  30

Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys
        35                  40                  45

Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu
    50                  55                  60

Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile
65                  70                  75                  80

Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser Phe
                85                  90                  95

Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg
            100                 105                 110
```

Gln Glu Lys Lys Ser Val Arg Gly Lys Gly Lys Gly Gln Lys Arg Lys
115 120 125

Arg Lys Lys Ser Arg Tyr Lys Ser Trp Ser Val Tyr Val Gly Ala Arg
130 135 140

Cys Cys Leu Met Pro Trp Ser Leu Pro Gly Pro His Pro Cys Gly Pro
145 150 155 160

Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr Cys
165 170 175

Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg Cys Lys Ala Arg Gln Leu
180 185 190

Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg
195 200 205

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<212> PRT
213> Homo sapiens

<400> 2

Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln Arg Lys Val Val Ser
1 5 10 15

Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln Pro Arg Glu Val Val
20 25 30

Val Pro Leu Thr Val Glu Leu Met Gly Thr Val Ala Lys Gln Leu Val
35 40 45

Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly Cys Cys Pro Asp Asp
50 55 60

Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln Val Arg Met Gln Ile
65 70 75 80

Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly Glu Met Ser Leu Glu
85 90 95

Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys Lys Asp Ser Ala Val
100 105 110

Lys Pro Asp Arg Ala Ala Thr Pro His His Arg Pro Gln Pro Arg Ser
115 120 125

Val Pro Gly Trp Asp Ser Ala Pro Gly Ala Pro Ser Pro Ala Asp Ile
130 135 140

Thr His Pro Thr Pro Ala Pro Gly Pro Ser Ala His Ala Ala Pro Ser
145 150 155 160

Thr Thr Ser Ala Leu Thr Pro Gly Pro Ala Ala Ala Ala Ala Asp Ala
165 170 175

Ala Ala Ser Ser Val Ala Lys Gly Gly Ala
180 185

<210> 3
<211> 116
<212> PRT
<213> Homo sapiens

<400> 3

Ala His Tyr Asn Thr Glu Ile Leu Lys Ser Ile Asp Asn Glu Trp Arg
1 5 10 15

Lys Thr Gln Cys Met Pro Arg Glu Val Cys Ile Asp Val Gly Lys Glu
20 25 30

Phe Gly Val Ala Thr Asn Thr Phe Phe Lys Pro Pro Cys Val Ser Val
35 40 45

Tyr Arg Cys Gly Gly Cys Cys Asn Ser Glu Gly Leu Gln Cys Met Asn
50 55 60

Thr Ser Thr Ser Tyr Leu Ser Lys Thr Leu Phe Glu Ile Thr Val Pro
65 70 75 80

Leu Ser Gln Gly Pro Lys Pro Val Thr Ile Ser Phe Ala Asn His Thr
85 90 95

Ser Cys Arg Cys Met Ser Lys Leu Asp Val Tyr Arg Gln Val His Ser
100 105 110

Ile Ile Arg Arg
115

<210> 4
<211> 117
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<213> Homo sapiens

<400> 4

Phe Ala Ala Thr Phe Tyr Asp Ile Glu Thr Leu Lys Val Ile Asp Glu
1 5 10 15

Glu Trp Gln Arg Thr Gln Cys Ser Pro Arg Glu Thr Cys Val Glu Val
20 25 30

Ala Ser Glu Leu Gly Lys Ser Thr Asn Thr Phe Phe Lys Pro Pro Cys
35 40 45

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

Cys Met Asn Thr Ser Thr Ser Tyr Ile Ser Lys Gln Leu Phe Glu Ile
65 70 75 80

Ser Val Pro Leu Thr Ser Val Pro Glu Leu Val Pro Val Lys Val Ala
85 90 95

Asn His Thr Gly Cys Lys Cys Leu Pro Thr Ala Pro Arg His Pro Tyr
100 105 110

Ser Ile Ile Arg Arg
115

<210> 5
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<213> Homo sapiens

<400> 5

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

Met Gln Ala Gly Gln Thr Leu His Leu Gln Cys Arg Gly Glu Ala Ala
20 25 30

His Lys Trp Ser Leu Pro Glu Met Val Ser Lys Glu Ser Glu Arg Leu

```
        35                  40                  45

Ser Ile Thr Lys Ser Ala Cys Gly Arg Asn Gly Lys Gln Phe Cys Ser
    50                  55                  60

Thr Leu Thr Leu Asn Thr Ala Gln Ala Asn His Thr Gly Phe Tyr Ser
65                  70                  75                  80

Cys Lys Tyr Leu Ala Val Pro Thr Ser Lys Lys Lys Glu Thr Glu Ser
                85                  90                  95

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

Tyr Ser Glu Ile Pro Glu Ile Ile His Met Thr Glu Gly Arg Glu Leu
        115                 120                 125

Val Ile Pro Cys Arg Val Thr Ser Pro Asn Ile Thr Val Thr Leu Lys
    130                 135                 140

Lys Phe Pro Leu Asp Thr Leu Ile Pro Asp Gly Lys Arg Ile Ile Trp
145                 150                 155                 160

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

Gly Leu Leu Thr Cys Glu Ala Thr Val Asn Gly His Leu Tyr Lys Thr
            180                 185                 190

Asn Tyr Leu Thr His Arg Gln Thr Asn Thr Ile Ile Asp Val Gln Ile
        195                 200                 205

Ser Thr Pro Arg Pro Val Lys Leu Leu Arg Gly His Thr Leu Val Leu
    210                 215                 220

Asn Cys Thr Ala Thr Thr Pro Leu Asn Thr Arg Val Gln Met Thr Trp
225                 230                 235                 240

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

Asp Gln Ser Asn Ser His Ala Asn Ile Phe Tyr Ser Val Leu Thr Ile
            260                 265                 270

Asp Lys Met Gln Asn Lys Asp Lys Gly Leu Tyr Thr Cys Arg Val Arg
        275                 280                 285
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```
Ser Gly Pro Ser Phe Lys Ser Val Asn Thr Ser Val His Ile Tyr Asp
    290                 295                 300

Lys Ala Phe Ile Thr Val Lys His Arg Lys Gln Gln Val Leu Glu Thr
305                 310                 315                 320

Val Ala Gly Lys Arg Ser Tyr Arg Leu Ser Met Lys Val Lys Ala Phe
                325                 330                 335

Pro Ser Pro Glu Val Val Trp Leu Lys Asp Gly Leu Pro Ala Thr Glu
            340                 345                 350

Lys Ser Ala Arg Tyr Leu Thr Arg Gly Tyr Ser Leu Ile Ile Lys Asp
        355                 360                 365

Val Thr Glu Glu Asp Ala Gly Asn Tyr Thr Ile Leu Leu Ser Ile Lys
    370                 375                 380

Gln Ser Asn Val Phe Lys Asn Leu Thr Ala Thr Leu Ile Val Asn Val
385                 390                 395                 400

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

Leu Tyr Pro Leu Gly Ser Arg Gln Ile Leu Thr Cys Thr Ala Tyr Gly
            420                 425                 430

Ile Pro Gln Pro Thr Ile Lys Trp Phe Trp His Pro Cys Asn His Asn
        435                 440                 445

His Ser Glu Ala Arg Cys Asp Phe Cys Ser Asn Asn Glu Glu Ser Phe
    450                 455                 460

Ile Leu Asp Ala Asp Ser Asn Met Gly Asn Arg Ile Glu Ser Ile Thr
465                 470                 475                 480

Gln Arg Met Ala Ile Ile Glu Gly Lys Asn Lys Met Ala Ser Thr Leu
                485                 490                 495

Val Val Ala Asp Ser Arg Ile Ser Gly Ile Tyr Ile Cys Ile Ala Ser
            500                 505                 510

Asn Lys Val Gly Thr Val Gly Arg Asn Ile Ser Phe Tyr Ile Thr Asp
        515                 520                 525
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```
Val Pro Asn Gly Phe His Val Asn Leu Glu Lys Met Pro Thr Glu Gly
    530                 535                 540

Glu Asp Leu Lys Leu Ser Cys Thr Val Asn Lys Phe Leu Tyr Arg Asp
545                 550                 555                 560

Val Thr Trp Ile Leu Leu Arg Thr Val Asn Asn Arg Thr Met His Tyr
                565                 570                 575

Ser Ile Ser Lys Gln Lys Met Ala Ile Thr Lys Glu His Ser Ile Thr
            580                 585                 590

Leu Asn Leu Thr Ile Met Asn Val Ser Leu Gln Asp Ser Gly Thr Tyr
        595                 600                 605

Ala Cys Arg Ala Arg Asn Val Tyr Thr Gly Glu Glu Ile Leu Gln Lys
    610                 615                 620

Lys Glu Ile Thr Ile Arg Asp Gln Glu Ala Pro Tyr Leu Leu Arg Asn
625                 630                 635                 640

Leu Ser Asp His Thr Val Ala Ile Ser Ser Ser Thr Thr Leu Asp Cys
                645                 650                 655

His Ala Asn Gly Val Pro Glu Pro Gln Ile Thr Trp Phe Lys Asn Asn
            660                 665                 670

His Lys Ile Gln Gln Glu Pro Gly Ile Ile Leu Gly Pro Gly Ser Ser
        675                 680                 685

Thr Leu Phe Ile Glu Arg Val Thr Glu Glu Asp Glu Gly Val Tyr His
    690                 695                 700

Cys Lys Ala Thr Asn Gln Lys Gly Ser Val Glu Ser Ser Ala Tyr Leu
705                 710                 715                 720

Thr Val Gln Gly Thr Ser Asp Lys Ser Asn Leu Glu Leu Ile Thr Leu
                725                 730                 735

Thr Cys Thr Cys Val Ala Ala Thr Leu Phe Trp Leu Leu Leu Thr Leu
            740                 745                 750

Phe Ile Arg Lys Met Lys Arg Ser Ser Ser Glu Ile Lys Thr Asp Tyr
        755                 760                 765

Leu Ser Ile Ile Met Asp Pro Asp Glu Val Pro Leu Asp Glu Gln Cys
```

770 775 780

Glu Arg Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Ala Arg Glu Arg
785 790 795 800

Leu Lys Leu Gly Lys Ser Leu Gly Arg Gly Ala Phe Gly Lys Val Val
805 810 815

Gln Ala Ser Ala Phe Gly Ile Lys Lys Ser Pro Thr Cys Arg Thr Val
820 825 830

Ala Val Lys Met Leu Lys Glu Gly Ala Thr Ala Ser Glu Tyr Lys Ala
835 840 845

Leu Met Thr Glu Leu Lys Ile Leu Thr His Ile Gly His His Leu Asn
850 855 860

Val Val Asn Leu Leu Gly Ala Cys Thr Lys Gln Gly Gly Pro Leu Met
865 870 875 880

Val Ile Val Glu Tyr Cys Lys Tyr Gly Asn Leu Ser Asn Tyr Leu Lys
885 890 895

Ser Lys Arg Asp Leu Phe Phe Leu Asn Lys Asp Ala Ala Leu His Met
900 905 910

Glu Pro Lys Lys Glu Lys Met Glu Pro Gly Leu Glu Gln Gly Lys Lys
915 920 925

Pro Arg Leu Asp Ser Val Thr Ser Ser Glu Ser Phe Ala Ser Ser Gly
930 935 940

Phe Gln Glu Asp Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Asp Ser
945 950 955 960

Asp Gly Phe Tyr Lys Glu Pro Ile Thr Met Glu Asp Leu Ile Ser Tyr
965 970 975

Ser Phe Gln Val Ala Arg Gly Met Glu Phe Leu Ser Ser Arg Lys Cys
980 985 990

Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu Ser Glu Asn Asn
995 1000 1005

Val Val Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Tyr Lys
1010 1015 1020

```
Asn Pro  Asp Tyr Val Arg Lys  Gly Asp Thr Arg Leu  Pro Leu Lys
    1025                 1030                 1035

Trp Met  Ala Pro Glu Ser Ile  Phe Asp Lys Ile Tyr  Ser Thr Lys
    1040                 1045                 1050

Ser Asp  Val Trp Ser Tyr Gly  Val Leu Leu Trp Glu  Ile Phe Ser
    1055                 1060                 1065

Leu Gly  Gly Ser Pro Tyr Pro  Gly Val Gln Met Asp  Glu Asp Phe
    1070                 1075                 1080

Cys Ser  Arg Leu Arg Glu Gly  Met Arg Met Arg Ala  Pro Glu Tyr
    1085                 1090                 1095

Ser Thr  Pro Glu Ile Tyr Gln  Ile Met Leu Asp Cys  Trp His Arg
    1100                 1105                 1110

Asp Pro  Lys Glu Arg Pro Arg  Phe Ala Glu Leu Val  Glu Lys Leu
    1115                 1120                 1125

Gly Asp  Leu Leu Gln Ala Asn  Val Gln Gln Asp Gly  Lys Asp Tyr
    1130                 1135                 1140

Ile Pro  Ile Asn Ala Ile Leu  Thr Gly Asn Ser Gly  Phe Thr Tyr
    1145                 1150                 1155

Ser Thr  Pro Ala Phe Ser Glu  Asp Phe Phe Lys Glu  Ser Ile Ser
    1160                 1165                 1170

Ala Pro  Lys Phe Asn Ser Gly  Ser Ser Asp Asp Val  Arg Tyr Val
    1175                 1180                 1185

Asn Ala  Phe Lys Phe Met Ser  Leu Glu Arg Ile Lys  Thr Phe Glu
    1190                 1195                 1200

Glu Leu  Leu Pro Asn Ala Thr  Ser Met Phe Asp Asp  Tyr Gln Gly
    1205                 1210                 1215

Asp Ser  Ser Thr Leu Leu Ala  Ser Pro Met Leu Lys  Arg Phe Thr
    1220                 1225                 1230

Trp Thr  Asp Ser Lys Pro Lys  Ala Ser Leu Lys Ile  Asp Leu Arg
    1235                 1240                 1245
```

```
Val Thr  Ser Lys Ser Lys Glu  Ser Gly Leu Ser Asp  Val Ser Arg
    1250                 1255                 1260

Pro Ser  Phe Cys His Ser Ser  Cys Gly His Val Ser  Glu Gly Lys
    1265                 1270                 1275

Arg Arg  Phe Thr Tyr Asp His  Ala Glu Leu Glu Arg  Lys Ile Ala
    1280                 1285                 1290

Cys Cys  Ser Pro Pro Pro Asp  Tyr Asn Ser Val Val  Leu Tyr Ser
    1295                 1300                 1305

Thr Pro  Pro Ile
    1310
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<210> 6
<211> 1337
<212> PRT
<213> Homo sapiens

<400> 6

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Ala Ser Val Gly Leu Pro Ser Val Ser Leu Asp Leu Pro Arg Leu Ser
1               5                  10                  15

Ile Gln Lys Asp Ile Leu Thr Ile Lys Ala Asn Thr Thr Leu Gln Ile
            20                  25                  30

Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro Asn Asn Gln
        35                  40                  45

Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser Asp Gly Leu
    50                  55                  60

Phe Cys Lys Thr Leu Thr Ile Pro Lys Val Ile Gly Asn Asp Thr Gly
65                  70                  75                  80

Ala Tyr Lys Cys Phe Tyr Arg Glu Thr Asp Leu Ala Ser Val Ile Tyr
                85                  90                  95

Val Tyr Val Gln Asp Tyr Arg Ser Pro Phe Ile Ala Ser Val Ser Asp
            100                 105                 110

Gln His Gly Val Val Tyr Ile Thr Glu Asn Lys Asn Lys Thr Val Val
        115                 120                 125
```

```
Ile Pro Cys Leu Gly Ser Ile Ser Asn Leu Asn Val Ser Leu Cys Ala
    130                 135                 140

Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg Ile Ser Trp
145                 150                 155                 160

Asp Ser Lys Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile Ser Tyr Ala
                165                 170                 175

Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Ser Tyr Gln Ser
            180                 185                 190

Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg Ile Tyr Asp Val Val
        195                 200                 205

Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu Lys Leu Val
    210                 215                 220

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

Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu Val Asn Arg
                245                 250                 255

Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe Leu Ser Thr
            260                 265                 270

Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu Tyr Thr Cys
        275                 280                 285

Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr Phe Val Arg
    290                 295                 300

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

Val Glu Ala Thr Val Gly Glu Arg Val Arg Ile Pro Ala Lys Tyr Leu
                325                 330                 335

Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr Lys Asn Gly Ile Pro Leu
            340                 345                 350

Glu Ser Asn His Thr Ile Lys Ala Gly His Val Leu Thr Ile Met Glu
        355                 360                 365

Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu Thr Asn Pro
```

```
    370                 375                 380

Ile Ser Lys Glu Lys Gln Ser His Val Val Ser Leu Val Val Tyr Val
385                 390                 395                 400

Pro Pro Gln Ile Gly Glu Lys Ser Leu Ile Ser Pro Val Asp Ser Tyr
                405                 410                 415

Gln Tyr Gly Thr Thr Gln Thr Leu Thr Cys Thr Val Tyr Ala Ile Pro
            420                 425                 430

Pro Pro His His Ile His Trp Tyr Trp Gln Leu Glu Glu Glu Cys Ala
        435                 440                 445

Asn Glu Pro Ser Gln Ala Val Ser Val Thr Asn Pro Tyr Pro Cys Glu
    450                 455                 460

Glu Trp Arg Ser Val Glu Asp Phe Gln Gly Gly Asn Lys Ile Glu Val
465                 470                 475                 480

Asn Lys Asn Gln Phe Ala Leu Ile Glu Gly Lys Asn Lys Thr Val Ser
                485                 490                 495

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

Ala Val Asn Lys Val Gly Arg Gly Glu Arg Val Ile Ser Phe His Val
        515                 520                 525

Thr Arg Gly Pro Glu Ile Thr Leu Gln Pro Asp Met Gln Pro Thr Glu
    530                 535                 540

Gln Glu Ser Val Ser Leu Trp Cys Thr Ala Asp Arg Ser Thr Phe Glu
545                 550                 555                 560

Asn Leu Thr Trp Tyr Lys Leu Gly Pro Gln Pro Leu Pro Ile His Val
                565                 570                 575

Gly Glu Leu Pro Thr Pro Val Cys Lys Asn Leu Asp Thr Leu Trp Lys
            580                 585                 590

Leu Asn Ala Thr Met Phe Ser Asn Ser Thr Asn Asp Ile Leu Ile Met
        595                 600                 605

Glu Leu Lys Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr Val Cys Leu
    610                 615                 620
```

```
Ala Gln Asp Arg Lys Thr Lys Lys Arg His Cys Val Val Arg Gln Leu
625                 630                 635                 640

Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn Leu Glu Asn
                645                 650                 655

Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys Thr Ala Ser
            660                 665                 670

Gly Asn Pro Pro Pro Gln Ile Met Trp Phe Lys Asp Asn Glu Thr Leu
        675                 680                 685

Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg Asn Leu Thr
    690                 695                 700

Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr Cys Gln Ala
705                 710                 715                 720

Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe Ile Ile Glu
                725                 730                 735

Gly Ala Gln Glu Lys Thr Asn Leu Glu Ile Ile Ile Leu Val Gly Thr
            740                 745                 750

Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile Ile Leu Arg
        755                 760                 765

Thr Val Lys Arg Ala Asn Gly Gly Glu Leu Lys Thr Gly Tyr Leu Ser
    770                 775                 780

Ile Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu His Cys Glu Arg
785                 790                 795                 800

Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp Arg Leu Lys
                805                 810                 815

Leu Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val Ile Glu Ala
            820                 825                 830

Asp Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Arg Thr Val Ala Val
        835                 840                 845

Lys Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg Ala Leu Met
    850                 855                 860
```

```
Ser Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu Asn Val Val
865                 870                 875                 880

Asn Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val Ile
                885                 890                 895

Val Glu Phe Cys Lys Phe Gly Asn Leu Ser Thr Tyr Leu Arg Ser Lys
            900                 905                 910

Arg Asn Glu Phe Val Pro Tyr Lys Thr Lys Gly Ala Arg Phe Arg Gln
        915                 920                 925

Gly Lys Asp Tyr Val Gly Ala Ile Pro Val Asp Leu Lys Arg Arg Leu
    930                 935                 940

Asp Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val Glu
945                 950                 955                 960

Glu Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Pro Glu Asp Leu
                965                 970                 975

Tyr Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe Gln
            980                 985                 990

Val Ala Lys Gly Met Glu Phe Leu  Ala Ser Arg Lys Cys  Ile His Arg
        995                 1000                1005

Asp Leu  Ala Ala Arg Asn Ile  Leu Leu Ser Glu Lys  Asn Val Val
    1010                1015                1020

Lys Ile  Cys Asp Phe Gly Leu  Ala Arg Asp Ile Tyr  Lys Asp Pro
    1025                1030                1035

Asp Tyr  Val Arg Lys Gly Asp  Ala Arg Leu Pro Leu  Lys Trp Met
    1040                1045                1050

Ala Pro  Glu Thr Ile Phe Asp  Arg Val Tyr Thr Ile  Gln Ser Asp
    1055                1060                1065

Val Trp  Ser Phe Gly Val Leu  Leu Trp Glu Ile Phe  Ser Leu Gly
    1070                1075                1080

Ala Ser  Pro Tyr Pro Gly Val  Lys Ile Asp Glu Glu  Phe Cys Arg
    1085                1090                1095

Arg Leu  Lys Glu Gly Thr Arg  Met Arg Ala Pro Asp  Tyr Thr Thr
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```
    1100                1105                1110

Pro Glu  Met Tyr Gln Thr Met  Leu Asp Cys Trp His  Gly Glu Pro
    1115                1120                1125

Ser Gln  Arg Pro Thr Phe Ser  Glu Leu Val Glu His  Leu Gly Asn
    1130                1135                1140

Leu Leu  Gln Ala Asn Ala Gln  Gln Asp Gly Lys Asp  Tyr Ile Val
    1145                1150                1155

Leu Pro  Ile Ser Glu Thr Leu  Ser Met Glu Glu Asp  Ser Gly Leu
    1160                1165                1170

Ser Leu  Pro Thr Ser Pro Val  Ser Cys Met Glu Glu  Glu Glu Val
    1175                1180                1185

Cys Asp  Pro Lys Phe His Tyr  Asp Asn Thr Ala Gly  Ile Ser Gln
    1190                1195                1200

Tyr Leu  Gln Asn Ser Lys Arg  Lys Ser Arg Pro Val  Ser Val Lys
    1205                1210                1215

Thr Phe  Glu Asp Ile Pro Leu  Glu Glu Pro Glu Val  Lys Val Ile
    1220                1225                1230

Pro Asp  Asp Asn Gln Thr Asp  Ser Gly Met Val Leu  Ala Ser Glu
    1235                1240                1245

Glu Leu  Lys Thr Leu Glu Asp  Arg Thr Lys Leu Ser  Pro Ser Phe
    1250                1255                1260

Gly Gly  Met Val Pro Ser Lys  Ser Arg Glu Ser Val  Ala Ser Glu
    1265                1270                1275

Gly Ser  Asn Gln Thr Ser Gly  Tyr Gln Ser Gly Tyr  His Ser Asp
    1280                1285                1290

Asp Thr  Asp Thr Thr Val Tyr  Ser Ser Glu Glu Ala  Glu Leu Leu
    1295                1300                1305

Lys Leu  Ile Glu Ile Gly Val  Gln Thr Gly Ser Thr  Ala Gln Ile
    1310                1315                1320

Leu Gln  Pro Asp Ser Gly Thr  Thr Leu Ser Ser Pro  Pro Val
    1325                1330                1335
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<210> 7
<211> 1274
<212> PRT
<213> Homo sapiens

<400> 7

Tyr Ser Met Thr Pro Pro Thr Leu Asn Ile Thr Glu Glu Ser His Val
1 5 10 15

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

Leu Glu Trp Ala Trp Pro Gly Ala Gln Glu Ala Pro Ala Thr Gly Asp
35 40 45

Lys Asp Ser Glu Asp Thr Gly Val Val Arg Asp Cys Glu Gly Thr Asp
50 55 60

Ala Arg Pro Tyr Cys Lys Val Leu Leu Leu His Glu Val His Ala Asn
65 70 75 80

Asp Thr Gly Ser Tyr Val Cys Tyr Tyr Lys Tyr Ile Lys Ala Arg Ile
85 90 95

Glu Gly Thr Thr Ala Ala Ser Ser Tyr Val Phe Val Arg Asp Phe Glu
100 105 110

Gln Pro Phe Ile Asn Lys Pro Asp Thr Leu Leu Val Asn Arg Lys Asp
115 120 125

Ala Met Trp Val Pro Cys Leu Val Ser Ile Pro Gly Leu Asn Val Thr
130 135 140

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

Trp Asp Asp Arg Arg Gly Met Leu Val Ser Thr Pro Leu Leu His Asp
165 170 175

Ala Leu Tyr Leu Gln Cys Glu Thr Thr Trp Gly Asp Gln Asp Phe Leu
180 185 190

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

```
Gln Leu Leu Pro Arg Lys Ser Leu Glu Leu Leu Val Gly Glu Lys Leu
    210                 215                 220

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

Asp Trp Asp Tyr Pro Gly Lys Gln Ala Glu Arg Gly Lys Trp Val Pro
                245                 250                 255

Glu Arg Arg Ser Gln Gln Thr His Thr Glu Leu Ser Ser Ile Leu Thr
            260                 265                 270

Ile His Asn Val Ser Gln His Asp Leu Gly Ser Tyr Val Cys Lys Ala
        275                 280                 285

Asn Asn Gly Ile Gln Arg Phe Arg Glu Ser Thr Glu Val Ile Val His
    290                 295                 300

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

Ala Thr Ala Gly Asp Glu Leu Val Lys Leu Pro Val Lys Leu Ala Ala
                325                 330                 335

Tyr Pro Pro Pro Glu Phe Gln Trp Tyr Lys Asp Gly Lys Ala Leu Ser
            340                 345                 350

Gly Arg His Ser Pro His Ala Leu Val Leu Lys Glu Val Thr Glu Ala
        355                 360                 365

Ser Thr Gly Thr Tyr Thr Leu Ala Leu Trp Asn Ser Ala Ala Gly Leu
    370                 375                 380

Arg Arg Asn Ile Ser Leu Glu Leu Val Val Asn Val Pro Pro Gln Ile
385                 390                 395                 400

His Glu Lys Glu Ala Ser Ser Pro Ser Ile Tyr Ser Arg His Ser Arg
                405                 410                 415

Gln Ala Leu Thr Cys Thr Ala Tyr Gly Val Pro Leu Pro Leu Ser Ile
            420                 425                 430

Gln Trp His Trp Arg Pro Trp Thr Pro Cys Lys Met Phe Ala Gln Arg
        435                 440                 445
```

```
Ser Leu Arg Arg Arg Gln Gln Gln Asp Leu Met Pro Gln Cys Arg Asp
    450                 455                 460

Trp Arg Ala Val Thr Thr Gln Asp Ala Val Asn Pro Ile Glu Ser Leu
465                 470                 475                 480

Asp Thr Trp Thr Glu Phe Val Glu Gly Lys Asn Lys Thr Val Ser Lys
                485                 490                 495

Leu Val Ile Gln Asn Ala Asn Val Ser Ala Met Tyr Lys Cys Val Val
            500                 505                 510

Ser Asn Lys Val Gly Gln Asp Glu Arg Leu Ile Tyr Phe Tyr Val Thr
        515                 520                 525

Thr Ile Pro Asp Gly Phe Thr Ile Glu Ser Lys Pro Ser Glu Glu Leu
    530                 535                 540

Leu Glu Gly Gln Pro Val Leu Leu Ser Cys Gln Ala Asp Ser Tyr Lys
545                 550                 555                 560

Tyr Glu His Leu Arg Trp Tyr Arg Leu Asn Leu Ser Thr Leu His Asp
                565                 570                 575

Ala His Gly Asn Pro Leu Leu Leu Asp Cys Lys Asn Val His Leu Phe
            580                 585                 590

Ala Thr Pro Leu Ala Ala Ser Leu Glu Glu Val Ala Pro Gly Ala Arg
        595                 600                 605

His Ala Thr Leu Ser Leu Ser Ile Pro Arg Val Ala Pro Glu His Glu
    610                 615                 620

Gly His Tyr Val Cys Glu Val Gln Asp Arg Arg Ser His Asp Lys His
625                 630                 635                 640

Cys His Lys Lys Tyr Leu Ser Val Gln Ala Leu Glu Ala Pro Arg Leu
                645                 650                 655

Thr Gln Asn Leu Thr Asp Leu Leu Val Asn Val Ser Asp Ser Leu Glu
            660                 665                 670

Met Gln Cys Leu Val Ala Gly Ala His Ala Pro Ser Ile Val Trp Tyr
        675                 680                 685

Lys Asp Glu Arg Leu Leu Glu Glu Lys Ser Gly Val Asp Leu Ala Asp
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Ser Asn Gln Lys Leu Ser Ile Gln Arg Val Arg Glu Glu Asp Ala Gly
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Arg Tyr Leu Cys Ser Val Cys Asn Ala Lys Gly Cys Val Asn Ser Ser
725 730 735

Ala Ser Val Ala Val Glu Gly Ser Glu Asp Lys Gly Ser Met Glu Ile
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Val Ile Leu Val Gly Thr Gly Val Ile Ala Val Phe Phe Trp Val Leu
755 760 765

Leu Leu Leu Ile Phe Cys Asn Met Arg Arg Pro Ala His Ala Asp Ile
770 775 780

Lys Thr Gly Tyr Leu Ser Ile Ile Met Asp Pro Gly Glu Val Pro Leu
785 790 795 800

Glu Glu Gln Cys Glu Tyr Leu Ser Tyr Asp Ala Ser Gln Trp Glu Phe
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Pro Arg Glu Arg Leu His Leu Gly Arg Val Leu Gly Tyr Gly Ala Phe
820 825 830

Gly Lys Val Val Glu Ala Ser Ala Phe Gly Ile His Lys Gly Ser Ser
835 840 845

Cys Asp Thr Val Ala Val Lys Met Leu Lys Glu Gly Ala Thr Ala Ser
850 855 860

Glu His Arg Ala Leu Met Ser Glu Leu Lys Ile Leu Ile His Ile Gly
865 870 875 880

Asn His Leu Asn Val Val Asn Leu Leu Gly Ala Cys Thr Lys Pro Gln
885 890 895

Gly Pro Leu Met Val Ile Val Glu Phe Cys Lys Tyr Gly Asn Leu Ser
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Asn Phe Leu Arg Ala Lys Arg Asp Ala Phe Ser Pro Cys Ala Glu Lys
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Ser Pro Glu Gln Arg Gly Arg Phe Arg Ala Met Val Glu Leu Ala Arg
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Leu Asp Arg Arg Arg Pro Gly Ser Ser Asp Arg Val Leu Phe Ala Arg
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Phe Ser Lys Thr Glu Gly Gly Ala Arg Arg Ala Ser Pro Asp Gln Glu
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Ala Glu Asp Leu Trp Leu Ser Pro Leu Thr Met Glu Asp Leu Val Cys
            980                 985                 990

Tyr Ser Phe Gln Val Ala Arg Gly  Met Glu Phe Leu Ala  Ser Arg Lys
        995                 1000                1005

Cys Ile  His Arg Asp Leu Ala  Ala Arg Asn Ile Leu  Leu Ser Glu
    1010                1015                1020

Ser Asp  Val Val Lys Ile Cys  Asp Phe Gly Leu Ala  Arg Asp Ile
    1025                1030                1035

Tyr Lys  Asp Pro Asp Tyr Val  Arg Lys Gly Ser Ala  Arg Leu Pro
    1040                1045                1050

Leu Lys  Trp Met Ala Pro Glu  Ser Ile Phe Asp Lys  Val Tyr Thr
    1055                1060                1065

Thr Gln  Ser Asp Val Trp Ser  Phe Gly Val Leu Leu  Trp Glu Ile
    1070                1075                1080

Phe Ser  Leu Gly Ala Ser Pro  Tyr Pro Gly Val Gln  Ile Asn Glu
    1085                1090                1095

Glu Phe  Cys Gln Arg Leu Arg  Asp Gly Thr Arg Met  Arg Ala Pro
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Glu Leu  Ala Thr Pro Ala Ile  Arg Arg Ile Met Leu  Asn Cys Trp
    1115                1120                1125

Ser Gly  Asp Pro Lys Ala Arg  Pro Ala Phe Ser Glu  Leu Val Glu
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Ile Leu  Gly Asp Leu Leu Gln  Gly Arg Gly Leu Gln  Glu Glu Glu
    1145                1150                1155

Glu Val  Cys Met Ala Pro Arg  Ser Ser Gln Ser Ser  Glu Glu Gly
    1160                1165                1170
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Ser Phe  Ser Gln Val Ser Thr  Met Ala Leu His Ile  Ala Gln Ala
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Asp Ala  Glu Asp Ser Pro Pro  Ser Leu Gln Arg His  Ser Leu Ala
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Ala Arg  Tyr Tyr Asn Trp Val  Ser Phe Pro Gly Cys  Leu Ala Arg
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Gly Ala  Glu Thr Arg Gly Ser  Ser Arg Met Lys Thr  Phe Glu Glu
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Phe Pro  Met Thr Pro Thr Thr  Tyr Lys Gly Ser Val  Asp Asn Gln
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Thr Asp  Ser Gly Met Val Leu  Ala Ser Glu Glu Phe  Glu Gln Ile
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Glu Ser  Arg His Arg Gln Glu  Ser Gly Phe Arg
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Glu Ser Glu Val Phe Tyr Glu Leu Ala His Gln Leu Pro Leu Pro His
        35                  40                  45

Asn Val Ser Ser His Leu Asp Lys Ala Ser Val Met Arg Leu Thr Ile
    50                  55                  60

Ser Tyr Leu Arg Val Arg Lys Leu Leu Asp Ala Gly Asp Leu Asp Ile
65                  70                  75                  80

Glu Asp Asp Met Lys Ala Gln Met Asn Cys Phe Tyr Leu Lys Ala Leu
                85                  90                  95
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```
Asp Gly Phe Val Met Val Leu Thr Asp Asp Gly Asp Met Ile Tyr Ile
            100                 105                 110

Ser Asp Asn Val Asn Lys Tyr Met Gly Leu Thr Gln Phe Glu Leu Thr
        115                 120                 125

Gly His Ser Val Phe Asp Phe Thr His Pro Cys Asp His Glu Glu Met
    130                 135                 140

Arg Glu Met Leu Thr His Arg Asn Gly Leu Val Lys Lys Gly Lys Glu
145                 150                 155                 160

Gln Asn Thr Gln Arg Ser Phe Phe Leu Arg Met Lys Cys Thr Leu Thr
                165                 170                 175

Ser Arg Gly Arg Thr Met Asn Ile Lys Ser Ala Thr Trp Lys Val Leu
            180                 185                 190

His Cys Thr Gly His Ile His Val Tyr Asp Thr Asn Ser Asn Gln Pro
        195                 200                 205

Gln Cys Gly Tyr Lys Lys Pro Pro Met Thr Cys Leu Val Leu Ile Cys
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Glu Pro Ile Pro His Pro Ser Asn Ile Glu Ile Pro Leu Asp Ser Lys
225                 230                 235                 240

Thr Phe Leu Ser Arg His Ser Leu Asp Met Lys Phe Ser Tyr Cys Asp
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Glu Arg Ile Thr Glu Leu Met Gly Tyr Glu Pro Glu Glu Leu Leu Gly
            260                 265                 270

Arg Ser Ile Tyr Glu Tyr Tyr His Ala Leu Asp Ser Asp His Leu Thr
        275                 280                 285

Lys Thr His His Asp Met Phe Thr Lys Gly Gln Val Thr Thr Gly Gln
    290                 295                 300

Tyr Arg Met Leu Ala Lys Arg Gly Gly Tyr Val Trp Val Glu Thr Gln
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Ala Thr Val Ile Tyr Asn Thr Lys Asn Ser Gln Pro Gln Cys Ile Val
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Cys Val Asn Tyr Val Val Ser Gly Ile Ile Gln His Asp Leu Ile Phe
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Ser Leu Gln Gln Thr Glu Cys Val Leu Lys Pro Val Glu Ser Ser Asp
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Ser Leu Phe Asp Lys Leu Lys Lys Glu Pro Asp Ala Leu Thr Leu Leu
385                 390                 395                 400

Ala Pro Ala Ala Gly Asp Thr Ile Ile Ser Leu Asp Phe Gly Ser Asn
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Asp Thr Glu Thr Asp Asp Gln Gln Leu Glu Glu Val Pro Leu Tyr Asn
            420                 425                 430

Asp Val Met Leu Pro Ser Pro Asn Glu Lys Leu Gln Asn Ile Asn Leu
        435                 440                 445

Ala Met Ser Pro Leu Pro Thr Ala Glu Thr Pro Lys Pro Leu Arg Ser
    450                 455                 460

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

Pro Asn Ser Pro Ser Glu Tyr Cys Phe Tyr Val Asp Ser Asp Met Val
        515                 520                 525

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

Glu Ala Lys Asn Pro Phe Ser Thr Gln Asp Thr Asp Leu Asp Leu Glu
545                 550                 555                 560

Met Leu Ala Pro Tyr Ile Pro Met Asp Asp Asp Phe Gln Leu Arg Ser
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Phe Asp Gln Leu Ser Pro Leu Glu Ser Ser Ser Ala Ser Pro Glu Ser
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Ala Ser Pro Gln Ser Thr Val Thr Val Phe Gln Gln Thr Gln Ile Gln
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Glu Pro Thr Ala Asn Ala Thr Thr Thr Thr Ala Thr Thr Asp Glu Leu
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Lys Thr Val Thr Lys Asp Arg Met Glu Asp Ile Lys Ile Leu Ile Ala
625                 630                 635                 640

Ser Pro Ser Pro Thr His Ile His Lys Glu Thr Thr Ser Ala Thr Ser
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Ser Pro Tyr Arg Asp Thr Gln Ser Arg Thr Ala Ser Pro Asn Arg Ala
            660                 665                 670

Gly Lys Gly Val Ile Glu Gln Thr Glu Lys Ser His Pro Arg Ser Pro
        675                 680                 685

Asn Val Leu Ser Val Ala Leu Ser Gln Arg Thr Thr Val Pro Glu Glu
    690                 695                 700

Glu Leu Asn Pro Lys Ile Leu Ala Leu Gln Asn Ala Gln Arg Lys Arg
705                 710                 715                 720

Lys Met Glu His Asp Gly Ser Leu Phe Gln Ala Val Gly Ile Gly Thr
                725                 730                 735

Leu Leu Gln Gln Pro Asp Asp His Ala Ala Thr Thr Ser Leu Ser Trp
            740                 745                 750

Lys Arg Val Lys Gly Cys Lys Ser Ser Glu Gln Asn Gly Met Glu Gln
        755                 760                 765

Lys Thr Ile Ile Leu Ile Pro Ser Asp Leu Ala Cys Arg Leu Leu Gly
    770                 775                 780

Gln Ser Met Asp Glu Ser Gly Leu Pro Gln Leu Thr Ser Tyr Asp Cys
785                 790                 795                 800

Glu Val Asn Ala Pro Ile Gln Gly Ser Arg Asn Leu Leu Gln Gly Glu
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