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SEQUENCE LISTING

<110> Cynata Therapeutics Limited

<120> Colony Forming Medium and Use Thereof

<130> P100952.PCT

<150> AU 2016900983
<151> 2016-03-16

<150> AU 2016904039
<151> 2016-10-05

<150> AU 2017900318
<151> 2017-02-02

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<170> PatentIn version 3.5

<210> 1
<211> 116
<212> PRT
<213> Homo sapiens

<400> 1

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Gly Leu Glu Cys Asp Gly Lys Val Asn Ile Cys Cys Lys Lys Gln Phe
1               5                   10                  15


Phe Val Ser Phe Lys Asp Ile Gly Trp Asn Asp Trp Ile Ile Ala Pro
            20                  25                  30


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


Ala Gly Thr Ser Gly Ser Ser Leu Ser Phe His Ser Thr Val Ile Asn
    50                  55                  60


His Tyr Arg Met Arg Gly His Ser Pro Phe Ala Asn Leu Lys Ser Cys
65                  70                  75                  80


Cys Val Pro Thr Lys Leu Arg Pro Met Ser Met Leu Tyr Tyr Asp Asp
                85                  90                  95
```

```
Gly Gln Asn Ile Ile Lys Lys Asp Ile Gln Asn Met Ile Val Glu Glu
            100                 105                 110


Cys Gly Cys Ser
        115


<210>  2
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<212>  PRT
<213>  Homo sapiens

<400>  2

Lys Lys Asn Lys Asn Cys Arg Arg His Ser Leu Tyr Val Asp Phe Ser
1               5                   10                  15


Asp Val Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala
            20                  25                  30


Phe Tyr Cys His Gly Asp Cys Pro Phe Pro Leu Ala Asp His Leu Asn
        35                  40                  45


Ser Thr Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val Asn Ser
    50                  55                  60


Ser Ile Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser Ala Ile Ser
65                  70                  75                  80


Met Leu Tyr Leu Asp Glu Tyr Asp Lys Val Val Leu Lys Asn Tyr Gln
                85                  90                  95


Glu Met Val Val Glu Gly Cys Gly Cys Arg
            100                 105


<210>  3
<211>  1057
<212>  PRT
<213>  Homo sapiens

<400>  3

Gln Leu Ser Tyr Gly Tyr Asp Glu Lys Ser Thr Gly Gly Ile Ser Val
1               5                   10                  15
```

```
Pro Gly Pro Met Gly Pro Ser Gly Pro Arg Gly Leu Pro Gly Pro Pro
            20                  25                  30

Gly Ala Pro Gly Pro Gln Gly Phe Gln Gly Pro Pro Gly Glu Pro Gly
        35                  40                  45

Glu Pro Gly Ala Ser Gly Pro Met Gly Pro Arg Gly Pro Pro Gly Pro
    50                  55                  60

Pro Gly Lys Asn Gly Asp Asp Gly Glu Ala Gly Lys Pro Gly Arg Pro
65                  70                  75                  80

Gly Glu Arg Gly Pro Pro Gly Pro Gln Gly Ala Arg Gly Leu Pro Gly
                85                  90                  95

Thr Ala Gly Leu Pro Gly Met Lys Gly His Arg Gly Phe Ser Gly Leu
            100                 105                 110

Asp Gly Ala Lys Gly Asp Ala Gly Pro Ala Gly Pro Lys Gly Glu Pro
        115                 120                 125

Gly Ser Pro Gly Glu Asn Gly Ala Pro Gly Gln Met Gly Pro Arg Gly
    130                 135                 140

Leu Pro Gly Glu Arg Gly Arg Pro Gly Ala Pro Gly Pro Ala Gly Ala
145                 150                 155                 160

Arg Gly Asn Asp Gly Ala Thr Gly Ala Ala Gly Pro Pro Gly Pro Thr
                165                 170                 175

Gly Pro Ala Gly Pro Pro Gly Phe Pro Gly Ala Val Gly Ala Lys Gly
            180                 185                 190

Glu Ala Gly Pro Gln Gly Pro Arg Gly Ser Glu Gly Pro Gln Gly Val
        195                 200                 205

Arg Gly Glu Pro Gly Pro Pro Gly Pro Ala Gly Ala Ala Gly Pro Ala
    210                 215                 220
```

```
Gly Asn Pro Gly Ala Asp Gly Gln Pro Gly Ala Lys Gly Ala Asn Gly
225                 230                 235                 240

Ala Pro Gly Ile Ala Gly Ala Pro Gly Phe Pro Gly Ala Arg Gly Pro
                245                 250                 255

Ser Gly Pro Gln Gly Pro Gly Gly Pro Pro Gly Pro Lys Gly Asn Ser
            260                 265                 270

Gly Glu Pro Gly Ala Pro Gly Ser Lys Gly Asp Thr Gly Ala Lys Gly
        275                 280                 285

Glu Pro Gly Pro Val Gly Val Gln Gly Pro Pro Gly Pro Ala Gly Glu
    290                 295                 300

Glu Gly Lys Arg Gly Ala Arg Gly Glu Pro Gly Pro Thr Gly Leu Pro
305                 310                 315                 320

Gly Pro Pro Gly Glu Arg Gly Gly Pro Gly Ser Arg Gly Phe Pro Gly
                325                 330                 335

Ala Asp Gly Val Ala Gly Pro Lys Gly Pro Ala Gly Glu Arg Gly Ser
            340                 345                 350

Pro Gly Pro Ala Gly Pro Lys Gly Ser Pro Gly Glu Ala Gly Arg Pro
        355                 360                 365

Gly Glu Ala Gly Leu Pro Gly Ala Lys Gly Leu Thr Gly Ser Pro Gly
    370                 375                 380

Ser Pro Gly Pro Asp Gly Lys Thr Gly Pro Pro Gly Pro Ala Gly Gln
385                 390                 395                 400

Asp Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Ala Arg Gly Gln Ala
                405                 410                 415

Gly Val Met Gly Phe Pro Gly Pro Lys Gly Ala Ala Gly Glu Pro Gly
            420                 425                 430
```

```
Lys Ala Gly Glu Arg Gly Val Pro Gly Pro Pro Gly Ala Val Gly Pro
        435                 440                 445

Ala Gly Lys Asp Gly Glu Ala Gly Ala Gln Gly Pro Pro Gly Pro Ala
    450                 455                 460

Gly Pro Ala Gly Glu Arg Gly Glu Gln Gly Pro Ala Gly Ser Pro Gly
465                 470                 475                 480

Phe Gln Gly Leu Pro Gly Pro Ala Gly Pro Pro Gly Glu Ala Gly Lys
                485                 490                 495

Pro Gly Glu Gln Gly Val Pro Gly Asp Leu Gly Ala Pro Gly Pro Ser
            500                 505                 510

Gly Ala Arg Gly Glu Arg Gly Phe Pro Gly Glu Arg Gly Val Gln Gly
        515                 520                 525

Pro Pro Gly Pro Ala Gly Pro Arg Gly Ala Asn Gly Ala Pro Gly Asn
    530                 535                 540

Asp Gly Ala Lys Gly Asp Ala Gly Ala Pro Gly Ala Pro Gly Ser Gln
545                 550                 555                 560

Gly Ala Pro Gly Leu Gln Gly Met Pro Gly Glu Arg Gly Ala Ala Gly
                565                 570                 575

Leu Pro Gly Pro Lys Gly Asp Arg Gly Asp Ala Gly Pro Lys Gly Ala
            580                 585                 590

Asp Gly Ser Pro Gly Lys Asp Gly Val Arg Gly Leu Thr Gly Pro Ile
        595                 600                 605

Gly Pro Pro Gly Pro Ala Gly Ala Pro Gly Asp Lys Gly Glu Ser Gly
    610                 615                 620

Pro Ser Gly Pro Ala Gly Pro Thr Gly Ala Arg Gly Ala Pro Gly Asp
625                 630                 635                 640
```

```
Arg Gly Glu Pro Gly Pro Pro Gly Pro Ala Gly Phe Ala Gly Pro Pro
                645                 650                 655

Gly Ala Asp Gly Gln Pro Gly Ala Lys Gly Glu Pro Gly Asp Ala Gly
            660                 665                 670

Ala Lys Gly Asp Ala Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Pro
        675                 680                 685

Pro Gly Pro Ile Gly Asn Val Gly Ala Pro Gly Ala Lys Gly Ala Arg
    690                 695                 700

Gly Ser Ala Gly Pro Pro Gly Ala Thr Gly Phe Pro Gly Ala Ala Gly
705                 710                 715                 720

Arg Val Gly Pro Pro Gly Pro Ser Gly Asn Ala Gly Pro Pro Gly Pro
                725                 730                 735

Pro Gly Pro Ala Gly Lys Glu Gly Gly Lys Gly Pro Arg Gly Glu Thr
            740                 745                 750

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

Pro Ala Gly Glu Lys Gly Ser Pro Gly Ala Asp Gly Pro Ala Gly Ala
    770                 775                 780

Pro Gly Thr Pro Gly Pro Gln Gly Ile Ala Gly Gln Arg Gly Val Val
785                 790                 795                 800

Gly Leu Pro Gly Gln Arg Gly Glu Arg Gly Phe Pro Gly Leu Pro Gly
                805                 810                 815

Pro Ser Gly Glu Pro Gly Lys Gln Gly Pro Ser Gly Ala Ser Gly Glu
            820                 825                 830

Arg Gly Pro Pro Gly Pro Met Gly Pro Pro Gly Leu Ala Gly Pro Pro
        835                 840                 845
```

```
Gly Glu Ser Gly Arg Glu Gly Ala Pro Gly Ala Glu Gly Ser Pro Gly
    850                 855                 860

Arg Asp Gly Ser Pro Gly Ala Lys Gly Asp Arg Gly Glu Thr Gly Pro
865                 870                 875                 880

Ala Gly Pro Pro Gly Ala Pro Gly Ala Pro Gly Ala Pro Gly Pro Val
                885                 890                 895

Gly Pro Ala Gly Lys Ser Gly Asp Arg Gly Glu Thr Gly Pro Ala Gly
            900                 905                 910

Pro Ala Gly Pro Val Gly Pro Val Gly Ala Arg Gly Pro Ala Gly Pro
        915                 920                 925

Gln Gly Pro Arg Gly Asp Lys Gly Glu Thr Gly Glu Gln Gly Asp Arg
    930                 935                 940

Gly Ile Lys Gly His Arg Gly Phe Ser Gly Leu Gln Gly Pro Pro Gly
945                 950                 955                 960

Pro Pro Gly Ser Pro Gly Glu Gln Gly Pro Ser Gly Ala Ser Gly Pro
                965                 970                 975

Ala Gly Pro Arg Gly Pro Pro Gly Ser Ala Gly Ala Pro Gly Lys Asp
            980                 985                 990

Gly Leu Asn Gly Leu Pro Gly Pro  Ile Gly Pro Pro Gly  Pro Arg Gly
        995                 1000                1005

Arg Thr  Gly Asp Ala Gly Pro  Val Gly Pro Pro Gly  Pro Pro Gly
    1010                1015                1020

Pro Pro  Gly Pro Pro Gly Pro  Pro Ser Ala Gly Phe  Asp Phe Ser
    1025                1030                1035

Phe Leu  Pro Gln Pro Pro Gln  Glu Lys Ala His Asp  Gly Gly Arg
    1040                1045                1050
```

Tyr Tyr Arg Ala
1055

<210> 4
<211> 1497
<212> PRT
<213> Homo sapiens

<400> 4

Gly Glu Arg Gly Phe Pro Gly Ile Pro Gly Thr Pro Gly Pro Pro Gly
1 5 10 15

Leu Pro Gly Leu Gln Gly Pro Val Gly Pro Pro Gly Phe Thr Gly Pro
20 25 30

Pro Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Glu Lys Gly Gln Met
35 40 45

Gly Leu Ser Phe Gln Gly Pro Lys Gly Asp Lys Gly Asp Gln Gly Val
50 55 60

Ser Gly Pro Pro Gly Val Pro Gly Gln Ala Gln Val Gln Glu Lys Gly
65 70 75 80

Asp Phe Ala Thr Lys Gly Glu Lys Gly Gln Lys Gly Glu Pro Gly Phe
85 90 95

Gln Gly Met Pro Gly Val Gly Glu Lys Gly Glu Pro Gly Lys Pro Gly
100 105 110

Pro Arg Gly Lys Pro Gly Lys Asp Gly Asp Lys Gly Glu Lys Gly Ser
115 120 125

Pro Gly Phe Pro Gly Glu Pro Gly Tyr Pro Gly Leu Ile Gly Arg Gln
130 135 140

Gly Pro Gln Gly Glu Lys Gly Glu Ala Gly Pro Pro Gly Pro Pro Gly
145 150 155 160

```
Ile Val Ile Gly Thr Gly Pro Leu Gly Glu Lys Gly Glu Arg Gly Tyr
                165                 170                 175

Pro Gly Thr Pro Gly Pro Arg Gly Glu Pro Gly Pro Lys Gly Phe Pro
            180                 185                 190

Gly Leu Pro Gly Gln Pro Gly Pro Pro Gly Leu Pro Val Pro Gly Gln
        195                 200                 205

Ala Gly Ala Pro Gly Phe Pro Gly Glu Arg Gly Glu Lys Gly Asp Arg
    210                 215                 220

Gly Phe Pro Gly Thr Ser Leu Pro Gly Pro Ser Gly Arg Asp Gly Leu
225                 230                 235                 240

Pro Gly Pro Pro Gly Ser Pro Gly Pro Pro Gly Gln Pro Gly Tyr Thr
                245                 250                 255

Asn Gly Ile Val Glu Cys Gln Pro Gly Pro Pro Gly Asp Gln Gly Pro
            260                 265                 270

Pro Gly Ile Pro Gly Gln Pro Gly Phe Ile Gly Glu Ile Gly Glu Lys
        275                 280                 285

Gly Gln Lys Gly Glu Ser Cys Leu Ile Cys Asp Ile Asp Gly Tyr Arg
    290                 295                 300

Gly Pro Pro Gly Pro Gln Gly Pro Pro Gly Glu Ile Gly Phe Pro Gly
305                 310                 315                 320

Gln Pro Gly Ala Lys Gly Asp Arg Gly Leu Pro Gly Arg Asp Gly Val
                325                 330                 335

Ala Gly Val Pro Gly Pro Gln Gly Thr Pro Gly Leu Ile Gly Gln Pro
            340                 345                 350

Gly Ala Lys Gly Glu Pro Gly Glu Phe Tyr Phe Asp Leu Arg Leu Lys
        355                 360                 365
```

```
Gly Asp Lys Gly Asp Pro Gly Phe Pro Gly Gln Pro Gly Met Pro Gly
    370                 375                 380

Arg Ala Gly Ser Pro Gly Arg Asp Gly His Pro Gly Leu Pro Gly Pro
385                 390                 395                 400

Lys Gly Ser Pro Gly Ser Val Gly Leu Lys Gly Glu Arg Gly Pro Pro
                405                 410                 415

Gly Gly Val Gly Phe Pro Gly Ser Arg Gly Asp Thr Gly Pro Pro Gly
            420                 425                 430

Pro Pro Gly Tyr Gly Pro Ala Gly Pro Ile Gly Asp Lys Gly Gln Ala
        435                 440                 445

Gly Phe Pro Gly Gly Pro Gly Ser Pro Gly Leu Pro Gly Pro Lys Gly
    450                 455                 460

Glu Pro Gly Lys Ile Val Pro Leu Pro Gly Pro Pro Gly Ala Glu Gly
465                 470                 475                 480

Leu Pro Gly Ser Pro Gly Phe Pro Gly Pro Gln Gly Asp Arg Gly Phe
                485                 490                 495

Pro Gly Thr Pro Gly Arg Pro Gly Leu Pro Gly Glu Lys Gly Ala Val
            500                 505                 510

Gly Gln Pro Gly Ile Gly Phe Pro Gly Pro Pro Gly Pro Lys Gly Val
        515                 520                 525

Asp Gly Leu Pro Gly Asp Met Gly Pro Pro Gly Thr Pro Gly Arg Pro
    530                 535                 540

Gly Phe Asn Gly Leu Pro Gly Asn Pro Gly Val Gln Gly Gln Lys Gly
545                 550                 555                 560

Glu Pro Gly Val Gly Leu Pro Gly Leu Lys Gly Leu Pro Gly Leu Pro
                565                 570                 575
```

```
Gly Ile Pro Gly Thr Pro Gly Glu Lys Gly Ser Ile Gly Val Pro Gly
            580                 585                 590

Val Pro Gly Glu His Gly Ala Ile Gly Pro Pro Gly Leu Gln Gly Ile
        595                 600                 605

Arg Gly Glu Pro Gly Pro Pro Gly Leu Pro Gly Ser Val Gly Ser Pro
    610                 615                 620

Gly Val Pro Gly Ile Gly Pro Pro Gly Ala Arg Gly Pro Pro Gly Gly
625                 630                 635                 640

Gln Gly Pro Pro Gly Leu Ser Gly Pro Pro Gly Ile Lys Gly Glu Lys
                645                 650                 655

Gly Phe Pro Gly Phe Pro Gly Leu Asp Met Pro Gly Pro Lys Gly Asp
            660                 665                 670

Lys Gly Ala Gln Gly Leu Pro Gly Ile Thr Gly Gln Ser Gly Leu Pro
        675                 680                 685

Gly Leu Pro Gly Gln Gln Gly Ala Pro Gly Ile Pro Gly Phe Pro Gly
    690                 695                 700

Ser Lys Gly Glu Met Gly Val Met Gly Thr Pro Gly Gln Pro Gly Ser
705                 710                 715                 720

Pro Gly Pro Val Gly Ala Pro Gly Leu Pro Gly Glu Lys Gly Asp His
                725                 730                 735

Gly Phe Pro Gly Ser Ser Gly Pro Arg Gly Asp Pro Gly Leu Lys Gly
            740                 745                 750

Asp Lys Gly Asp Val Gly Leu Pro Gly Lys Pro Gly Ser Met Asp Lys
        755                 760                 765

Val Asp Met Gly Ser Met Lys Gly Gln Lys Gly Asp Gln Gly Glu Lys
    770                 775                 780
```

```
Gly Gln Ile Gly Pro Ile Gly Glu Lys Gly Ser Arg Gly Asp Pro Gly
785                 790                 795                 800

Thr Pro Gly Val Pro Gly Lys Asp Gly Gln Ala Gly Gln Pro Gly Gln
                805                 810                 815

Pro Gly Pro Lys Gly Asp Pro Gly Ile Ser Gly Thr Pro Gly Ala Pro
            820                 825                 830

Gly Leu Pro Gly Pro Lys Gly Ser Val Gly Gly Met Gly Leu Pro Gly
        835                 840                 845

Thr Pro Gly Glu Lys Gly Val Pro Gly Ile Pro Gly Pro Gln Gly Ser
    850                 855                 860

Pro Gly Leu Pro Gly Asp Lys Gly Ala Lys Gly Glu Lys Gly Gln Ala
865                 870                 875                 880

Gly Pro Pro Gly Ile Gly Ile Pro Gly Leu Arg Gly Glu Lys Gly Asp
                885                 890                 895

Gln Gly Ile Ala Gly Phe Pro Gly Ser Pro Gly Glu Lys Gly Glu Lys
            900                 905                 910

Gly Ser Ile Gly Ile Pro Gly Met Pro Gly Ser Pro Gly Leu Lys Gly
        915                 920                 925

Ser Pro Gly Ser Val Gly Tyr Pro Gly Ser Pro Gly Leu Pro Gly Glu
    930                 935                 940

Lys Gly Asp Lys Gly Leu Pro Gly Leu Asp Gly Ile Pro Gly Val Lys
945                 950                 955                 960

Gly Glu Ala Gly Leu Pro Gly Thr Pro Gly Pro Thr Gly Pro Ala Gly
                965                 970                 975

Gln Lys Gly Glu Pro Gly Ser Asp Gly Ile Pro Gly Ser Ala Gly Glu
            980                 985                 990
```

```
Lys Gly Glu Pro Gly Leu Pro Gly  Arg Gly Phe Pro Gly  Phe Pro Gly
        995                 1000                1005


Ala Lys  Gly Asp Lys Gly Ser  Lys Gly Glu Val Gly  Phe Pro Gly
    1010                1015                1020


Leu Ala  Gly Ser Pro Gly Ile  Pro Gly Ser Lys Gly  Glu Gln Gly
    1025                1030                1035


Phe Met  Gly Pro Pro Gly Pro  Gln Gly Gln Pro Gly  Leu Pro Gly
    1040                1045                1050


Ser Pro  Gly His Ala Thr Glu  Gly Pro Lys Gly Asp  Arg Gly Pro
    1055                1060                1065


Gln Gly  Gln Pro Gly Leu Pro  Gly Leu Pro Gly Pro  Met Gly Pro
    1070                1075                1080


Pro Gly  Leu Pro Gly Ile Asp  Gly Val Lys Gly Asp  Lys Gly Asn
    1085                1090                1095


Pro Gly  Trp Pro Gly Ala Pro  Gly Val Pro Gly Pro  Lys Gly Asp
    1100                1105                1110


Pro Gly  Phe Gln Gly Met Pro  Gly Ile Gly Gly Ser  Pro Gly Ile
    1115                1120                1125


Thr Gly  Ser Lys Gly Asp Met  Gly Pro Pro Gly Val  Pro Gly Phe
    1130                1135                1140


Gln Gly  Pro Lys Gly Leu Pro  Gly Leu Gln Gly Ile  Lys Gly Asp
    1145                1150                1155


Gln Gly  Asp Gln Gly Val Pro  Gly Ala Lys Gly Leu  Pro Gly Pro
    1160                1165                1170


Pro Gly  Pro Pro Gly Pro Tyr  Asp Ile Ile Lys Gly  Glu Pro Gly
    1175                1180                1185
```

```
Leu Pro  Gly Pro Glu Gly Pro  Pro Gly Leu Lys Gly  Leu Gln Gly
    1190                1195                1200

Leu Pro  Gly Pro Lys Gly Gln  Gln Gly Val Thr Gly  Leu Val Gly
    1205                1210                1215

Ile Pro  Gly Pro Pro Gly Ile  Pro Gly Phe Asp Gly  Ala Pro Gly
    1220                1225                1230

Gln Lys  Gly Glu Met Gly Pro  Ala Gly Pro Thr Gly  Pro Arg Gly
    1235                1240                1245

Phe Pro  Gly Pro Pro Gly Pro  Asp Gly Leu Pro Gly  Ser Met Gly
    1250                1255                1260

Pro Pro  Gly Thr Pro Ser Val  Asp His Gly Phe Leu  Val Thr Arg
    1265                1270                1275

His Ser  Gln Thr Ile Asp Asp  Pro Gln Cys Pro Ser  Gly Thr Lys
    1280                1285                1290

Ile Leu  Tyr His Gly Tyr Ser  Leu Leu Tyr Val Gln  Gly Asn Glu
    1295                1300                1305

Arg Ala  His Gly Gln Asp Leu  Gly Thr Ala Gly Ser  Cys Leu Arg
    1310                1315                1320

Lys Phe  Ser Thr Met Pro Phe  Leu Phe Cys Asn Ile  Asn Asn Val
    1325                1330                1335

Cys Asn  Phe Ala Ser Arg Asn  Asp Tyr Ser Tyr Trp  Leu Ser Thr
    1340                1345                1350

Pro Glu  Pro Met Pro Met Ser  Met Ala Pro Ile Thr  Gly Glu Asn
    1355                1360                1365

Ile Arg  Pro Phe Ile Ser Arg  Cys Ala Val Cys Glu  Ala Pro Ala
    1370                1375                1380
```

```
Met Val  Met Ala Val His Ser  Gln Thr Ile Gln Ile  Pro Pro Cys
    1385                1390                1395


Pro Ser  Gly Trp Ser Ser Leu  Trp Ile Gly Tyr Ser  Phe Val Met
    1400                1405                1410


His Thr  Ser Ala Gly Ala Glu  Gly Ser Gly Gln Ala  Leu Ala Ser
    1415                1420                1425


Pro Gly  Ser Cys Leu Glu Glu  Phe Arg Ser Ala Pro  Phe Ile Glu
    1430                1435                1440


Cys His  Gly Arg Gly Thr Cys  Asn Tyr Tyr Ala Asn  Ala Tyr Ser
    1445                1450                1455


Phe Trp  Leu Ala Thr Ile Glu  Arg Ser Glu Met Phe  Lys Lys Pro
    1460                1465                1470


Thr Pro  Ser Thr Leu Lys Ala  Gly Glu Leu Arg Thr  His Val Ser
    1475                1480                1485


Arg Cys  Gln Val Cys Met Arg  Arg Thr
    1490                1495
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<210> 5
<211> 288
<212> PRT
<213> Homo sapiens

<400> 5

```
Met Val Gly Val Gly Gly Gly Asp Val Glu Asp Val Thr Pro Arg Pro
1               5                  10                  15


Gly Gly Cys Gln Ile Ser Gly Arg Gly Ala Arg Gly Cys Asn Gly Ile
            20                  25                  30


Pro Gly Ala Ala Ala Trp Glu Ala Ala Leu Pro Arg Arg Arg Pro Arg
        35                  40                  45
```

```
Arg His Pro Ser Val Asn Pro Arg Ser Arg Ala Ala Gly Ser Pro Arg
    50                  55                  60

Thr Arg Gly Arg Arg Thr Glu Glu Arg Pro Ser Gly Ser Arg Leu Gly
65                  70                  75                  80

Asp Arg Gly Arg Gly Arg Ala Leu Pro Gly Gly Arg Leu Gly Gly Arg
                85                  90                  95

Gly Arg Gly Arg Ala Pro Glu Arg Val Gly Gly Arg Gly Arg Gly Arg
            100                 105                 110

Gly Thr Ala Ala Pro Arg Ala Ala Pro Ala Ala Arg Gly Ser Arg Pro
        115                 120                 125

Gly Pro Ala Gly Thr Met Ala Ala Gly Ser Ile Thr Thr Leu Pro Ala
    130                 135                 140

Leu Pro Glu Asp Gly Gly Ser Gly Ala Phe Pro Pro Gly His Phe Lys
145                 150                 155                 160

Asp Pro Lys Arg Leu Tyr Cys Lys Asn Gly Gly Phe Phe Leu Arg Ile
                165                 170                 175

His Pro Asp Gly Arg Val Asp Gly Val Arg Glu Lys Ser Asp Pro His
            180                 185                 190

Ile Lys Leu Gln Leu Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys
        195                 200                 205

Gly Val Cys Ala Asn Arg Tyr Leu Ala Met Lys Glu Asp Gly Arg Leu
    210                 215                 220

Leu Ala Ser Lys Cys Val Thr Asp Glu Cys Phe Phe Phe Glu Arg Leu
225                 230                 235                 240

Glu Ser Asn Asn Tyr Asn Thr Tyr Arg Ser Arg Lys Tyr Thr Ser Trp
                245                 250                 255
```

```
Tyr Val Ala Leu Lys Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr
            260                 265                 270

Gly Pro Gly Gln Lys Ala Ile Leu Phe Leu Pro Met Ser Ala Lys Ser
        275                 280                 285
```

<210> 6
<211> 2415
<212> PRT
<213> Homo sapiens

<400> 6

```
Gln Ala Gln Gln Met Val Gln Pro Gln Ser Pro Val Ala Val Ser Gln
1               5                   10                  15

Ser Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln
            20                  25                  30

Gln Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr
        35                  40                  45

Gly Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu
    50                  55                  60

Thr Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr
65                  70                  75                  80

Tyr Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly
                85                  90                  95

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

Gly Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu
        115                 120                 125

Thr Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly
    130                 135                 140

Glu Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala
```

```
145                 150                 155                 160

Gly Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly
                165                 170                 175

Trp Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile
            180                 185                 190

Thr Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser
        195                 200                 205

Tyr Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu
    210                 215                 220

Leu Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu
225                 230                 235                 240

Arg His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr
                245                 250                 255

Asp Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro
            260                 265                 270

Pro Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly
        275                 280                 285

Met Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys
    290                 295                 300

Leu Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr
305                 310                 315                 320

Gly Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn
                325                 330                 335

Gly Arg Thr Phe Tyr Ser Cys Thr Thr Glu Gly Arg Gln Asp Gly His
            340                 345                 350

Leu Trp Cys Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser
```

```
        355                 360                 365

Phe Cys Thr Asp His Thr Val Leu Val Gln Thr Arg Gly Gly Asn Ser
    370                 375                 380

Asn Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr
385                 390                 395                 400

Thr Asp Cys Thr Ser Glu Gly Arg Arg Asp Asn Met Lys Trp Cys Gly
                405                 410                 415

Thr Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met
            420                 425                 430

Ala Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg
        435                 440                 445

Ile Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg
    450                 455                 460

Cys Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr
465                 470                 475                 480

Ser Gln Leu Arg Asp Gln Cys Ile Val Asp Asp Ile Thr Tyr Asn Val
                485                 490                 495

Asn Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys
            500                 505                 510

Thr Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp
        515                 520                 525

Gln Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser
    530                 535                 540

Trp Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly
545                 550                 555                 560

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

565 570 575

Ser Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro
580 585 590

Asn Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser
595 600 605

Lys Tyr Ile Leu Arg Trp Arg Pro Lys Asn Ser Val Gly Arg Trp Lys
610 615 620

Glu Ala Thr Ile Pro Gly His Leu Asn Ser Tyr Thr Ile Lys Gly Leu
625 630 635 640

Lys Pro Gly Val Val Tyr Glu Gly Gln Leu Ile Ser Ile Gln Gln Tyr
645 650 655

Gly His Gln Glu Val Thr Arg Phe Asp Phe Thr Thr Thr Ser Thr Ser
660 665 670

Thr Pro Val Thr Ser Asn Thr Val Thr Gly Glu Thr Thr Pro Phe Ser
675 680 685

Pro Leu Val Ala Thr Ser Glu Ser Val Thr Glu Ile Thr Ala Ser Ser
690 695 700

Phe Val Val Ser Trp Val Ser Ala Ser Asp Thr Val Ser Gly Phe Arg
705 710 715 720

Val Glu Tyr Glu Leu Ser Glu Glu Gly Asp Glu Pro Gln Tyr Leu Asp
725 730 735

Leu Pro Ser Thr Ala Thr Ser Val Asn Ile Pro Asp Leu Leu Pro Gly
740 745 750

Arg Lys Tyr Ile Val Asn Val Tyr Gln Ile Ser Glu Asp Gly Glu Gln
755 760 765

Ser Leu Ile Leu Ser Thr Ser Gln Thr Thr Ala Pro Asp Ala Pro Pro

```
    770                 775                 780

Asp Pro Thr Val Asp Gln Val Asp Asp Thr Ser Ile Val Val Arg Trp
785                 790                 795                 800

Ser Arg Pro Gln Ala Pro Ile Thr Gly Tyr Arg Ile Val Tyr Ser Pro
                805                 810                 815

Ser Val Glu Gly Ser Ser Thr Glu Leu Asn Leu Pro Glu Thr Ala Asn
            820                 825                 830

Ser Val Thr Leu Ser Asp Leu Gln Pro Gly Val Gln Tyr Asn Ile Thr
        835                 840                 845

Ile Tyr Ala Val Glu Glu Asn Gln Glu Ser Thr Pro Val Val Ile Gln
    850                 855                 860

Gln Glu Thr Thr Gly Thr Pro Arg Ser Asp Thr Val Pro Ser Pro Arg
865                 870                 875                 880

Asp Leu Gln Phe Val Glu Val Thr Asp Val Lys Val Thr Ile Met Trp
                885                 890                 895

Thr Pro Pro Glu Ser Ala Val Thr Gly Tyr Arg Val Asp Val Ile Pro
            900                 905                 910

Val Asn Leu Pro Gly Glu His Gly Gln Arg Leu Pro Ile Ser Arg Asn
        915                 920                 925

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

Lys Val Phe Ala Val Ser His Gly Arg Glu Ser Lys Pro Leu Thr Ala
945                 950                 955                 960

Gln Gln Thr Thr Lys Leu Asp Ala Pro Thr Asn Leu Gln Phe Val Asn
                965                 970                 975

Glu Thr Asp Ser Thr Val Leu Val Arg Trp Thr Pro Pro Arg Ala Gln
```

980 985 990

Ile Thr Gly Tyr Arg Leu Thr Val Gly Leu Thr Arg Arg Gly Gln Pro
995 1000 1005

Arg Gln Tyr Asn Val Gly Pro Ser Val Ser Lys Tyr Pro Leu Arg
1010 1015 1020

Asn Leu Gln Pro Ala Ser Glu Tyr Thr Val Ser Leu Val Ala Ile
1025 1030 1035

Lys Gly Asn Gln Glu Ser Pro Lys Ala Thr Gly Val Phe Thr Thr
1040 1045 1050

Leu Gln Pro Gly Ser Ser Ile Pro Pro Tyr Asn Thr Glu Val Thr
1055 1060 1065

Glu Thr Thr Ile Val Ile Thr Trp Thr Pro Ala Pro Arg Ile Gly
1070 1075 1080

Phe Lys Leu Gly Val Arg Pro Ser Gln Gly Gly Glu Ala Pro Arg
1085 1090 1095

Glu Val Thr Ser Asp Ser Gly Ser Ile Val Val Ser Gly Leu Thr
1100 1105 1110

Pro Gly Val Glu Tyr Val Tyr Thr Ile Gln Val Leu Arg Asp Gly
1115 1120 1125

Gln Glu Arg Asp Ala Pro Ile Val Asn Lys Val Val Thr Pro Leu
1130 1135 1140

Ser Pro Pro Thr Asn Leu His Leu Glu Ala Asn Pro Asp Thr Gly
1145 1150 1155

Val Leu Thr Val Ser Trp Glu Arg Ser Thr Thr Pro Asp Ile Thr
1160 1165 1170

Gly Tyr Arg Ile Thr Thr Thr Pro Thr Asn Gly Gln Gln Gly Asn

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    1175                1180                1185

Ser Leu  Glu Glu Val Val His  Ala Asp Gln Ser Ser  Cys Thr Phe
    1190                1195                1200

Asp Asn  Leu Ser Pro Gly Leu  Glu Tyr Asn Val Ser  Val Tyr Thr
    1205                1210                1215

Val Lys  Asp Asp Lys Glu Ser  Val Pro Ile Ser Asp  Thr Ile Ile
    1220                1225                1230

Pro Glu  Val Pro Gln Leu Thr  Asp Leu Ser Phe Val  Asp Ile Thr
    1235                1240                1245

Asp Ser  Ser Ile Gly Leu Arg  Trp Thr Pro Leu Asn  Ser Ser Thr
    1250                1255                1260

Ile Ile  Gly Tyr Arg Ile Thr  Val Val Ala Ala Gly  Glu Gly Ile
    1265                1270                1275

Pro Ile  Phe Glu Asp Phe Val  Asp Ser Ser Val Gly  Tyr Tyr Thr
    1280                1285                1290

Val Thr  Gly Leu Glu Pro Gly  Ile Asp Tyr Asp Ile  Ser Val Ile
    1295                1300                1305

Thr Leu  Ile Asn Gly Gly Glu  Ser Ala Pro Thr Thr  Leu Thr Gln
    1310                1315                1320

Gln Thr  Ala Val Pro Pro Pro  Thr Asp Leu Arg Phe  Thr Asn Ile
    1325                1330                1335

Gly Pro  Asp Thr Met Arg Val  Thr Trp Ala Pro Pro  Pro Ser Ile
    1340                1345                1350

Asp Leu  Thr Asn Phe Leu Val  Arg Tyr Ser Pro Val  Lys Asn Glu
    1355                1360                1365

Glu Asp  Val Ala Glu Leu Ser  Ile Ser Pro Ser Asp  Asn Ala Val
```

1370 1375 1380

Val Leu Thr Asn Leu Leu Pro Gly Thr Glu Tyr Val Val Ser Val
1385 1390 1395

Ser Ser Val Tyr Glu Gln His Glu Ser Thr Pro Leu Arg Gly Arg
1400 1405 1410

Gln Lys Thr Gly Leu Asp Ser Pro Thr Gly Ile Asp Phe Ser Asp
1415 1420 1425

Ile Thr Ala Asn Ser Phe Thr Val His Trp Ile Ala Pro Arg Ala
1430 1435 1440

Thr Ile Thr Gly Tyr Arg Ile Arg His His Pro Glu His Phe Ser
1445 1450 1455

Gly Arg Pro Arg Glu Asp Arg Val Pro His Ser Arg Asn Ser Ile
1460 1465 1470

Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr Val Val Ser Ile
1475 1480 1485

Val Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu Ile Gly Gln
1490 1495 1500

Gln Ser Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala
1505 1510 1515

Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val
1520 1525 1530

Thr Val Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn
1535 1540 1545

Ser Pro Val Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala
1550 1555 1560

Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val

```
    1565                1570                1575

Tyr Ala  Val Thr Gly Arg Gly  Asp Ser Pro Ala Ser  Ser Lys Pro
    1580                1585                1590

Ile Ser  Ile Asn Tyr Arg Thr  Glu Ile Asp Lys Pro  Ser Gln Met
    1595                1600                1605

Gln Val  Thr Asp Val Gln Asp  Asn Ser Ile Ser Val  Lys Trp Leu
    1610                1615                1620

Pro Ser  Ser Ser Pro Val Thr  Gly Tyr Arg Val Thr  Thr Thr Pro
    1625                1630                1635

Lys Asn  Gly Pro Gly Pro Thr  Lys Thr Lys Thr Ala  Gly Pro Asp
    1640                1645                1650

Gln Thr  Glu Met Thr Ile Glu  Gly Leu Gln Pro Thr  Val Glu Tyr
    1655                1660                1665

Val Val  Ser Val Tyr Ala Gln  Asn Pro Ser Gly Glu  Ser Gln Pro
    1670                1675                1680

Leu Val  Gln Thr Ala Val Thr  Asn Ile Asp Arg Pro  Lys Gly Leu
    1685                1690                1695

Ala Phe  Thr Asp Val Asp Val  Asp Ser Ile Lys Ile  Ala Trp Glu
    1700                1705                1710

Ser Pro  Gln Gly Gln Val Ser  Arg Tyr Arg Val Thr  Tyr Ser Ser
    1715                1720                1725

Pro Glu  Asp Gly Ile His Glu  Leu Phe Pro Ala Pro  Asp Gly Glu
    1730                1735                1740

Glu Asp  Thr Ala Glu Leu Gln  Gly Leu Arg Pro Gly  Ser Glu Tyr
    1745                1750                1755

Thr Val  Ser Val Val Ala Leu  His Asp Asp Met Glu  Ser Gln Pro
```

```
    1760                1765                1770

Leu Ile  Gly Thr Gln Ser Thr  Ala Ile Pro Ala Pro  Thr Asp Leu
    1775                1780                1785

Lys Phe  Thr Gln Val Thr Pro  Thr Ser Leu Ser Ala  Gln Trp Thr
    1790                1795                1800

Pro Pro  Asn Val Gln Leu Thr  Gly Tyr Arg Val Arg  Val Thr Pro
    1805                1810                1815

Lys Glu  Lys Thr Gly Pro Met  Lys Glu Ile Asn Leu  Ala Pro Asp
    1820                1825                1830

Ser Ser  Ser Val Val Val Ser  Gly Leu Met Val Ala  Thr Lys Tyr
    1835                1840                1845

Glu Val  Ser Val Tyr Ala Leu  Lys Asp Thr Leu Thr  Ser Arg Pro
    1850                1855                1860

Ala Gln  Gly Val Val Thr Thr  Leu Glu Asn Val Ser  Pro Pro Arg
    1865                1870                1875

Arg Ala  Arg Val Thr Asp Ala  Thr Glu Thr Thr Ile  Thr Ile Ser
    1880                1885                1890

Trp Arg  Thr Lys Thr Glu Thr  Ile Thr Gly Phe Gln  Val Asp Ala
    1895                1900                1905

Val Pro  Ala Asn Gly Gln Thr  Pro Ile Gln Arg Thr  Ile Lys Pro
    1910                1915                1920

Asp Val  Arg Ser Tyr Thr Ile  Thr Gly Leu Gln Pro  Gly Thr Asp
    1925                1930                1935

Tyr Lys  Ile Tyr Leu Tyr Thr  Leu Asn Asp Asn Ala  Arg Ser Ser
    1940                1945                1950

Pro Val  Val Ile Asp Ala Ser  Thr Ala Ile Asp Ala  Pro Ser Asn
```

```
    1955                1960                1965

Leu Arg  Phe Leu Ala Thr Thr  Pro Asn Ser Leu Leu  Val Ser Trp
    1970                1975                1980

Gln Pro  Pro Arg Ala Arg Ile  Thr Gly Tyr Ile Ile  Lys Tyr Glu
    1985                1990                1995

Lys Pro  Gly Ser Pro Pro Arg  Glu Val Val Pro Arg  Pro Arg Pro
    2000                2005                2010

Gly Val  Thr Glu Ala Thr Ile  Thr Gly Leu Glu Pro  Gly Thr Glu
    2015                2020                2025

Tyr Thr  Ile Tyr Val Ile Ala  Leu Lys Asn Asn Gln  Lys Ser Glu
    2030                2035                2040

Pro Leu  Ile Gly Arg Lys Lys  Thr Asp Glu Leu Pro  Gln Leu Val
    2045                2050                2055

Thr Leu  Pro His Pro Asn Leu  His Gly Pro Glu Ile  Leu Asp Val
    2060                2065                2070

Pro Ser  Thr Val Gln Lys Thr  Pro Phe Val Thr His  Pro Gly Tyr
    2075                2080                2085

Asp Thr  Gly Asn Gly Ile Gln  Leu Pro Gly Thr Ser  Gly Gln Gln
    2090                2095                2100

Pro Ser  Val Gly Gln Gln Met  Ile Phe Glu Glu His  Gly Phe Arg
    2105                2110                2115

Arg Thr  Thr Pro Pro Thr Thr  Ala Thr Pro Ile Arg  His Arg Pro
    2120                2125                2130

Arg Pro  Tyr Pro Pro Asn Val  Gly Gln Glu Ala Leu  Ser Gln Thr
    2135                2140                2145

Thr Ile  Ser Trp Ala Pro Phe  Gln Asp Thr Ser Glu  Tyr Ile Ile
```

```
    2150                2155                2160

Ser Cys  His Pro Val Gly Thr  Asp Glu Glu Pro Leu  Gln Phe Arg
    2165                2170                2175

Val Pro  Gly Thr Ser Thr Ser  Ala Thr Leu Thr Gly  Leu Thr Arg
    2180                2185                2190

Gly Ala  Thr Tyr Asn Ile Ile  Val Glu Ala Leu Lys  Asp Gln Gln
    2195                2200                2205

Arg His  Lys Val Arg Glu Glu  Val Val Thr Val Gly  Asn Ser Val
    2210                2215                2220

Asn Glu  Gly Leu Asn Gln Pro  Thr Asp Asp Ser Cys  Phe Asp Pro
    2225                2230                2235

Tyr Thr  Val Ser His Tyr Ala  Val Gly Asp Glu Trp  Glu Arg Met
    2240                2245                2250

Ser Glu  Ser Gly Phe Lys Leu  Leu Cys Gln Cys Leu  Gly Phe Gly
    2255                2260                2265

Ser Gly  His Phe Arg Cys Asp  Ser Ser Arg Trp Cys  His Asp Asn
    2270                2275                2280

Gly Val  Asn Tyr Lys Ile Gly  Glu Lys Trp Asp Arg  Gln Gly Glu
    2285                2290                2295

Asn Gly  Gln Met Met Ser Cys  Thr Cys Leu Gly Asn  Gly Lys Gly
    2300                2305                2310

Glu Phe  Lys Cys Asp Pro His  Glu Ala Thr Cys Tyr  Asp Asp Gly
    2315                2320                2325

Lys Thr  Tyr His Val Gly Glu  Gln Trp Gln Lys Glu  Tyr Leu Gly
    2330                2335                2340

Ala Ile  Cys Ser Cys Thr Cys  Phe Gly Gly Gln Arg  Gly Trp Arg
```

```
    2345                2350                2355


Cys Asp  Asn Cys Arg Arg Pro  Gly Gly Glu Pro Ser  Pro Glu Gly
    2360                2365                2370


Thr Thr  Gly Gln Ser Tyr Asn  Gln Tyr Ser Gln Arg  Tyr His Gln
    2375                2380                2385


Arg Thr  Asn Thr Asn Val Asn  Cys Pro Ile Glu Cys  Phe Met Pro
    2390                2395                2400


Leu Asp  Val Gln Ala Asp Arg  Glu Asp Ser Arg Glu
    2405                2410                2415


<210>  7
<211>  109
<212>  PRT
<213>  Homo sapiens

<400>  7

Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala Glu Cys
1               5                   10                  15


Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile Asp Arg
            20                  25                  30


Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln Arg
        35                  40                  45


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


Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg Lys
65                  70                  75                  80


Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu Ala
                85                  90                  95


Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr
            100                 105
```

<210> 8
<211> 2179
<212> PRT
<213> Homo sapiens

<400> 8

```
Gly Val Leu Lys Lys Val Ile Arg His Lys Arg Gln Ser Gly Val Asn
1               5                   10                  15


Ala Thr Leu Pro Glu Glu Asn Gln Pro Val Val Phe Asn His Val Tyr
            20                  25                  30


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


Ala Ser Gly Glu Lys Asp Leu Ala Pro Pro Ser Glu Pro Ser Glu Ser
    50                  55                  60


Phe Gln Glu His Thr Val Asp Gly Glu Asn Gln Ile Val Phe Thr His
65                  70                  75                  80


Arg Ile Asn Ile Pro Arg Arg Ala Cys Gly Cys Ala Ala Ala Pro Asp
                85                  90                  95


Val Lys Glu Leu Leu Ser Arg Leu Glu Glu Leu Glu Asn Leu Val Ser
            100                 105                 110


Ser Leu Arg Glu Gln Cys Thr Ala Gly Ala Gly Cys Cys Leu Gln Pro
        115                 120                 125


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


Phe Ser Thr Glu Gly Cys Gly Cys Val Cys Glu Pro Gly Trp Lys Gly
145                 150                 155                 160


Pro Asn Cys Ser Glu Pro Glu Cys Pro Gly Asn Cys His Leu Arg Gly
                165                 170                 175
```

```
Arg Cys Ile Asp Gly Gln Cys Ile Cys Asp Asp Gly Phe Thr Gly Glu
            180                 185                 190

Asp Cys Ser Gln Leu Ala Cys Pro Ser Asp Cys Asn Asp Gln Gly Lys
        195                 200                 205

Cys Val Asn Gly Val Cys Ile Cys Phe Glu Gly Tyr Ala Gly Ala Asp
    210                 215                 220

Cys Ser Arg Glu Ile Cys Pro Val Pro Cys Ser Glu Glu His Gly Thr
225                 230                 235                 240

Cys Val Asp Gly Leu Cys Val Cys His Asp Gly Phe Ala Gly Asp Asp
                245                 250                 255

Cys Asn Lys Pro Leu Cys Leu Asn Asn Cys Tyr Asn Arg Gly Arg Cys
            260                 265                 270

Val Glu Asn Glu Cys Val Cys Asp Glu Gly Phe Thr Gly Glu Asp Cys
        275                 280                 285

Ser Glu Leu Ile Cys Pro Asn Asp Cys Phe Asp Arg Gly Arg Cys Ile
    290                 295                 300

Asn Gly Thr Cys Tyr Cys Glu Glu Gly Phe Thr Gly Glu Asp Cys Gly
305                 310                 315                 320

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

Gly Gln Cys Val Cys Asp Glu Gly Phe Ala Gly Val Asp Cys Ser Glu
            340                 345                 350

Lys Arg Cys Pro Ala Asp Cys His Asn Arg Gly Arg Cys Val Asp Gly
        355                 360                 365

Arg Cys Glu Cys Asp Asp Gly Phe Thr Gly Ala Asp Cys Gly Glu Leu
    370                 375                 380
```

```
Lys Cys Pro Asn Gly Cys Ser Gly His Gly Arg Cys Val Asn Gly Gln
385                 390                 395                 400

Cys Val Cys Asp Glu Gly Tyr Thr Gly Glu Asp Cys Ser Gln Leu Arg
                405                 410                 415

Cys Pro Asn Asp Cys His Ser Arg Gly Arg Cys Val Glu Gly Lys Cys
            420                 425                 430

Val Cys Glu Gln Gly Phe Lys Gly Tyr Asp Cys Ser Asp Met Ser Cys
        435                 440                 445

Pro Asn Asp Cys His Gln His Gly Arg Cys Val Asn Gly Met Cys Val
    450                 455                 460

Cys Asp Asp Gly Tyr Thr Gly Glu Asp Cys Arg Asp Arg Gln Cys Pro
465                 470                 475                 480

Arg Asp Cys Ser Asn Arg Gly Leu Cys Val Asp Gly Gln Cys Val Cys
                485                 490                 495

Glu Asp Gly Phe Thr Gly Pro Asp Cys Ala Glu Leu Ser Cys Pro Asn
            500                 505                 510

Asp Cys His Gly Gln Gly Arg Cys Val Asn Gly Gln Cys Val Cys His
        515                 520                 525

Glu Gly Phe Met Gly Lys Asp Cys Lys Glu Gln Arg Cys Pro Ser Asp
    530                 535                 540

Cys His Gly Gln Gly Arg Cys Val Asp Gly Gln Cys Ile Cys His Glu
545                 550                 555                 560

Gly Phe Thr Gly Leu Asp Cys Gly Gln His Ser Cys Pro Ser Asp Cys
                565                 570                 575

Asn Asn Leu Gly Gln Cys Val Ser Gly Arg Cys Ile Cys Asn Glu Gly
            580                 585                 590
```

```
Tyr Ser Gly Glu Asp Cys Ser Glu Val Ser Pro Pro Lys Asp Leu Val
        595                 600                 605

Val Thr Glu Val Thr Glu Glu Thr Val Asn Leu Ala Trp Asp Asn Glu
    610                 615                 620

Met Arg Val Thr Glu Tyr Leu Val Val Tyr Thr Pro Thr His Glu Gly
625                 630                 635                 640

Gly Leu Glu Met Gln Phe Arg Val Pro Gly Asp Gln Thr Ser Thr Ile
                645                 650                 655

Ile Gln Glu Leu Glu Pro Gly Val Glu Tyr Phe Ile Arg Val Phe Ala
            660                 665                 670

Ile Leu Glu Asn Lys Lys Ser Ile Pro Val Ser Ala Arg Val Ala Thr
        675                 680                 685

Tyr Leu Pro Ala Pro Glu Gly Leu Lys Phe Lys Ser Ile Lys Glu Thr
    690                 695                 700

Ser Val Glu Val Glu Trp Asp Pro Leu Asp Ile Ala Phe Glu Thr Trp
705                 710                 715                 720

Glu Ile Ile Phe Arg Asn Met Asn Lys Glu Asp Glu Gly Glu Ile Thr
                725                 730                 735

Lys Ser Leu Arg Arg Pro Glu Thr Ser Tyr Arg Gln Thr Gly Leu Ala
            740                 745                 750

Pro Gly Gln Glu Tyr Glu Ile Ser Leu His Ile Val Lys Asn Asn Thr
        755                 760                 765

Arg Gly Pro Gly Leu Lys Arg Val Thr Thr Thr Arg Leu Asp Ala Pro
    770                 775                 780

Ser Gln Ile Glu Val Lys Asp Val Thr Asp Thr Thr Ala Leu Ile Thr
785                 790                 795                 800
```

```
Trp Phe Lys Pro Leu Ala Glu Ile Asp Gly Ile Glu Leu Thr Tyr Gly
                805                 810                 815

Ile Lys Asp Val Pro Gly Asp Arg Thr Thr Ile Asp Leu Thr Glu Asp
            820                 825                 830

Glu Asn Gln Tyr Ser Ile Gly Asn Leu Lys Pro Asp Thr Glu Tyr Glu
        835                 840                 845

Val Ser Leu Ile Ser Arg Arg Gly Asp Met Ser Ser Asn Pro Ala Lys
    850                 855                 860

Glu Thr Phe Thr Thr Gly Leu Asp Ala Pro Arg Asn Leu Arg Arg Val
865                 870                 875                 880

Ser Gln Thr Asp Asn Ser Ile Thr Leu Glu Trp Arg Asn Gly Lys Ala
                885                 890                 895

Ala Ile Asp Ser Tyr Arg Ile Lys Tyr Ala Pro Ile Ser Gly Gly Asp
            900                 905                 910

His Ala Glu Val Asp Val Pro Lys Ser Gln Gln Ala Thr Thr Lys Thr
        915                 920                 925

Thr Leu Thr Gly Leu Arg Pro Gly Thr Glu Tyr Gly Ile Gly Val Ser
    930                 935                 940

Ala Val Lys Glu Asp Lys Glu Ser Asn Pro Ala Thr Ile Asn Ala Ala
945                 950                 955                 960

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

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

Tyr Arg Leu Asn Tyr Ser Leu Pro  Thr Gly Gln Trp Val  Gly Val Gln
        995                 1000                1005
```

```
Leu Pro  Arg Asn Thr Thr Ser  Tyr Val Leu Arg Gly  Leu Glu Pro
    1010                1015                1020

Gly Gln  Glu Tyr Asn Val Leu  Leu Thr Ala Glu Lys  Gly Arg His
    1025                1030                1035

Lys Ser  Lys Pro Ala Arg Val  Lys Ala Ser Thr Glu  Gln Ala Pro
    1040                1045                1050

Glu Leu  Glu Asn Leu Thr Val  Thr Glu Val Gly Trp  Asp Gly Leu
    1055                1060                1065

Arg Leu  Asn Trp Thr Ala Ala  Asp Gln Ala Tyr Glu  His Phe Ile
    1070                1075                1080

Ile Gln  Val Gln Glu Ala Asn  Lys Val Glu Ala Ala  Arg Asn Leu
    1085                1090                1095

Thr Val  Pro Gly Ser Leu Arg  Ala Val Asp Ile Pro  Gly Leu Lys
    1100                1105                1110

Ala Ala  Thr Pro Tyr Thr Val  Ser Ile Tyr Gly Val  Ile Gln Gly
    1115                1120                1125

Tyr Arg  Thr Pro Val Leu Ser  Ala Glu Ala Ser Thr  Gly Glu Thr
    1130                1135                1140

Pro Asn  Leu Gly Glu Val Val  Val Ala Glu Val Gly  Trp Asp Ala
    1145                1150                1155

Leu Lys  Leu Asn Trp Thr Ala  Pro Glu Gly Ala Tyr  Glu Tyr Phe
    1160                1165                1170

Phe Ile  Gln Val Gln Glu Ala  Asp Thr Val Glu Ala  Ala Gln Asn
    1175                1180                1185

Leu Thr  Val Pro Gly Gly Leu  Arg Ser Thr Asp Leu  Pro Gly Leu
    1190                1195                1200
```

```
Lys Ala  Ala Thr His Tyr Thr  Ile Thr Ile Arg Gly  Val Thr Gln
    1205                 1210                 1215

Asp Phe  Ser Thr Thr Pro Leu  Ser Val Glu Val Leu  Thr Glu Glu
    1220                 1225                 1230

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

Ala Leu  Arg Leu Asn Trp Thr  Thr Pro Asp Gly Thr  Tyr Asp Gln
    1250                 1255                 1260

Phe Thr  Ile Gln Val Gln Glu  Ala Asp Gln Val Glu  Glu Ala His
    1265                 1270                 1275

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

Leu Arg  Ala Gly Thr Pro Tyr  Thr Val Thr Leu His  Gly Glu Val
    1295                 1300                 1305

Arg Gly  His Ser Thr Arg Pro  Leu Ala Val Glu Val  Val Thr Glu
    1310                 1315                 1320

Asp Leu  Pro Gln Leu Gly Asp  Leu Ala Val Ser Glu  Val Gly Trp
    1325                 1330                 1335

Asp Gly  Leu Arg Leu Asn Trp  Thr Ala Ala Asp Asn  Ala Tyr Glu
    1340                 1345                 1350

His Phe  Val Ile Gln Val Gln  Glu Val Asn Lys Val  Glu Ala Ala
    1355                 1360                 1365

Gln Asn  Leu Thr Leu Pro Gly  Ser Leu Arg Ala Val  Asp Ile Pro
    1370                 1375                 1380

Gly Leu  Glu Ala Ala Thr Pro  Tyr Arg Val Ser Ile  Tyr Gly Val
    1385                 1390                 1395
```

```
Ile Arg  Gly Tyr Arg Thr Pro  Val Leu Ser Ala Glu  Ala Ser Thr
    1400                1405                1410

Ala Lys  Glu Pro Glu Ile Gly  Asn Leu Asn Val Ser  Asp Ile Thr
    1415                1420                1425

Pro Glu  Ser Phe Asn Leu Ser  Trp Met Ala Thr Asp  Gly Ile Phe
    1430                1435                1440

Glu Thr  Phe Thr Ile Glu Ile  Ile Asp Ser Asn Arg  Leu Leu Glu
    1445                1450                1455

Thr Val  Glu Tyr Asn Ile Ser  Gly Ala Glu Arg Thr  Ala His Ile
    1460                1465                1470

Ser Gly  Leu Pro Pro Ser Thr  Asp Phe Ile Val Tyr  Leu Ser Gly
    1475                1480                1485

Leu Ala  Pro Ser Ile Arg Thr  Lys Thr Ile Ser Ala  Thr Ala Thr
    1490                1495                1500

Thr Glu  Ala Leu Pro Leu Leu  Glu Asn Leu Thr Ile  Ser Asp Ile
    1505                1510                1515

Asn Pro  Tyr Gly Phe Thr Val  Ser Trp Met Ala Ser  Glu Asn Ala
    1520                1525                1530

Phe Asp  Ser Phe Leu Val Thr  Val Val Asp Ser Gly  Lys Leu Leu
    1535                1540                1545

Asp Pro  Gln Glu Phe Thr Leu  Ser Gly Thr Gln Arg  Lys Leu Glu
    1550                1555                1560

Leu Arg  Gly Leu Ile Thr Gly  Ile Gly Tyr Glu Val  Met Val Ser
    1565                1570                1575

Gly Phe  Thr Gln Gly His Gln  Thr Lys Pro Leu Arg  Ala Glu Ile
    1580                1585                1590
```

```
Val Thr  Glu Ala Glu Pro Glu  Val Asp Asn Leu Leu  Val Ser Asp
    1595                1600                1605

Ala Thr  Pro Asp Gly Phe Arg  Leu Ser Trp Thr Ala  Asp Glu Gly
    1610                1615                1620

Val Phe  Asp Asn Phe Val Leu  Lys Ile Arg Asp Thr  Lys Lys Gln
    1625                1630                1635

Ser Glu  Pro Leu Glu Ile Thr  Leu Leu Ala Pro Glu  Arg Thr Arg
    1640                1645                1650

Asp Ile  Thr Gly Leu Arg Glu  Ala Thr Glu Tyr Glu  Ile Glu Leu
    1655                1660                1665

Tyr Gly  Ile Ser Lys Gly Arg  Arg Ser Gln Thr Val  Ser Ala Ile
    1670                1675                1680

Ala Thr  Thr Ala Met Gly Ser  Pro Lys Glu Val Ile  Phe Ser Asp
    1685                1690                1695

Ile Thr  Glu Asn Ser Ala Thr  Val Ser Trp Arg Ala  Pro Thr Ala
    1700                1705                1710

Gln Val  Glu Ser Phe Arg Ile  Thr Tyr Val Pro Ile  Thr Gly Gly
    1715                1720                1725

Thr Pro  Ser Met Val Thr Val  Asp Gly Thr Lys Thr  Gln Thr Arg
    1730                1735                1740

Leu Val  Lys Leu Ile Pro Gly  Val Glu Tyr Leu Val  Ser Ile Ile
    1745                1750                1755

Ala Met  Lys Gly Phe Glu Glu  Ser Glu Pro Val Ser  Gly Ser Phe
    1760                1765                1770

Thr Thr  Ala Leu Asp Gly Pro  Ser Gly Leu Val Thr  Ala Asn Ile
    1775                1780                1785
```

```
Thr Asp  Ser Glu Ala Leu Ala  Arg Trp Gln Pro Ala  Ile Ala Thr
    1790                1795                1800

Val Asp  Ser Tyr Val Ile Ser  Tyr Thr Gly Glu Lys  Val Pro Glu
    1805                1810                1815

Ile Thr  Arg Thr Val Ser Gly  Asn Thr Val Glu Tyr  Ala Leu Thr
    1820                1825                1830

Asp Leu  Glu Pro Ala Thr Glu  Tyr Thr Leu Arg Ile  Phe Ala Glu
    1835                1840                1845

Lys Gly  Pro Gln Lys Ser Ser  Thr Ile Thr Ala Lys  Phe Thr Thr
    1850                1855                1860

Asp Leu  Asp Ser Pro Arg Asp  Leu Thr Ala Thr Glu  Val Gln Ser
    1865                1870                1875

Glu Thr  Ala Leu Leu Thr Trp  Arg Pro Pro Arg Ala  Ser Val Thr
    1880                1885                1890

Gly Tyr  Leu Leu Val Tyr Glu  Ser Val Asp Gly Thr  Val Lys Glu
    1895                1900                1905

Val Ile  Val Gly Pro Asp Thr  Thr Ser Tyr Ser Leu  Ala Asp Leu
    1910                1915                1920

Ser Pro  Ser Thr His Tyr Thr  Ala Lys Ile Gln Ala  Leu Asn Gly
    1925                1930                1935

Pro Leu  Arg Ser Asn Met Ile  Gln Thr Ile Phe Thr  Thr Ile Gly
    1940                1945                1950

Leu Leu  Tyr Pro Phe Pro Lys  Asp Cys Ser Gln Ala  Met Leu Asn
    1955                1960                1965

Gly Asp  Thr Thr Ser Gly Leu  Tyr Thr Ile Tyr Leu  Asn Gly Asp
    1970                1975                1980
```

```
Lys Ala  Glu Ala Leu Glu Val  Phe Cys Asp Met Thr  Ser Asp Gly
    1985                1990                1995

Gly Gly  Trp Ile Val Phe Leu  Arg Arg Lys Asn Gly  Arg Glu Asn
    2000                2005                2010

Phe Tyr  Gln Asn Trp Lys Ala  Tyr Ala Ala Gly Phe  Gly Asp Arg
    2015                2020                2025

Arg Glu  Glu Phe Trp Leu Gly  Leu Asp Asn Leu Asn  Lys Ile Thr
    2030                2035                2040

Ala Gln  Gly Gln Tyr Glu Leu  Arg Val Asp Leu Arg  Asp His Gly
    2045                2050                2055

Glu Thr  Ala Phe Ala Val Tyr  Asp Lys Phe Ser Val  Gly Asp Ala
    2060                2065                2070

Lys Thr  Arg Tyr Lys Leu Lys  Val Glu Gly Tyr Ser  Gly Thr Ala
    2075                2080                2085

Gly Asp  Ser Met Ala Tyr His  Asn Gly Arg Ser Phe  Ser Thr Phe
    2090                2095                2100

Asp Lys  Asp Thr Asp Ser Ala  Ile Thr Asn Cys Ala  Leu Ser Tyr
    2105                2110                2115

Lys Gly  Ala Phe Trp Tyr Arg  Asn Cys His Arg Val  Asn Leu Met
    2120                2125                2130

Gly Arg  Tyr Gly Asp Asn Asn  His Ser Gln Gly Val  Asn Trp Phe
    2135                2140                2145

His Trp  Lys Gly His Glu His  Ser Ile Gln Phe Ala  Glu Met Lys
    2150                2155                2160

Leu Arg  Pro Ser Asn Phe Arg  Asn Leu Glu Gly Arg  Arg Lys Arg
    2165                2170                2175
```

Ala