SEQUENCE LISTING

<110> Lim, Wendell A.
Roybal, Kole T.
Williams, Jasper Z.

<120> Proteolytically Cleavable Chimeric Polypeptides and Methods of Use Thereof

<130> UCSF-544WO

<150> US 62/378,614
<151> 2016-08-23

<160> 134

<170> PatentIn version 3.5

<210> 1
<211> 2555
<212> PRT
<213> Homo sapiens

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

Asn Gly Gly Lys Cys Glu Ala Ala Asn Gly Thr Glu Ala Cys Val Cys
35 40 45

Gly Gly Ala Phe Val Gly Pro Arg Cys Gln Asp Pro Asn Pro Cys Leu
50 55 60

Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys His Val Val Asp Arg Arg
65 70 75 80

Gly Val Ala Asp Tyr Ala Cys Ser Cys Ala Leu Gly Phe Ser Gly Pro
85 90 95

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Leu Cys Leu Thr Pro Leu Asp Asn Ala Cys Leu Thr Asn Pro Cys Arg
            100                 105                 110

Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
        115                 120                 125

Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
    130                 135                 140

Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ala
145                 150                 155                 160

Ser Tyr Ile Cys His Cys Pro Pro Ser Phe His Gly Pro Thr Cys Arg
                165                 170                 175

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

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

Thr His Thr Gly Pro Asn Cys Glu Arg Pro Tyr Val Pro Cys Ser Pro
    210                 215                 220

Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Val Thr
225                 230                 235                 240

His Glu Cys Ala Cys Leu Pro Gly Phe Thr Gly Gln Asn Cys Glu Glu
                245                 250                 255

Asn Ile Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
            260                 265                 270

Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro Glu Trp Thr
        275                 280                 285
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Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
    290                 295                 300


Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly Gly Tyr Asn
305                 310                 315                 320


Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile
                325                 330                 335


Asp Asp Cys Ala Ser Ala Ala Cys Phe His Gly Ala Thr Cys His Asp
            340                 345                 350


Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
        355                 360                 365


Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
    370                 375                 380


Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
385                 390                 395                 400


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


Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Ile Asn Thr
            420                 425                 430


Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
        435                 440                 445


Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys Gln Asn Asp
    450                 455                 460


Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Ile Cys Met Pro
465                 470                 475                 480
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Gly Tyr Glu Gly Val His Cys Glu Val Asn Thr Asp Glu Cys Ala Ser
                485                 490                 495

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

Gln Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys Gln Tyr Asp
        515                 520                 525

Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
    530                 535                 540

Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
545                 550                 555                 560

Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
                565                 570                 575

Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Arg
            580                 585                 590

Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys Ser
        595                 600                 605

Ser Gln Pro Cys Arg His Gly Gly Thr Cys Gln Asp Arg Asp Asn Ala
    610                 615                 620

Tyr Leu Cys Phe Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
625                 630                 635                 640

Asn Leu Asp Asp Cys Ala Ser Ser Pro Cys Asp Ser Gly Thr Cys Leu
                645                 650                 655

Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
            660                 665                 670
```

```
Ser Met Cys Asn Ile Asn Ile Asp Glu Cys Ala Gly Asn Pro Cys His
        675                 680                 685

Asn Gly Gly Thr Cys Glu Asp Gly Ile Asn Gly Phe Thr Cys Arg Cys
    690                 695                 700

Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
705                 710                 715                 720

Asn Ser Asn Pro Cys Val His Gly Ala Cys Arg Asp Ser Leu Asn Gly
                725                 730                 735

Tyr Lys Cys Asp Cys Asp Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
            740                 745                 750

Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
        755                 760                 765

Lys Asp Met Thr Ser Gly Tyr Val Cys Thr Cys Arg Glu Gly Phe Ser
    770                 775                 780

Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
785                 790                 795                 800

Leu Asn Gln Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
                805                 810                 815

Cys Leu Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
            820                 825                 830

Cys Ala Pro Ser Pro Cys Arg Asn Gly Gly Glu Cys Arg Gln Ser Glu
        835                 840                 845

Asp Tyr Glu Ser Phe Ser Cys Val Cys Pro Thr Gly Trp Gln Gly Gln
    850                 855                 860
```

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Thr Cys Glu Val Asp Ile Asn Glu Cys Val Leu Ser Pro Cys Arg His
865                 870                 875                 880


Gly Ala Ser Cys Gln Asn Thr His Gly Gly Tyr Arg Cys His Cys Gln
                885                 890                 895


Ala Gly Tyr Ser Gly Arg Asn Cys Glu Thr Asp Ile Asp Asp Cys Arg
            900                 905                 910


Pro Asn Pro Cys His Asn Gly Gly Ser Cys Thr Asp Gly Ile Asn Thr
        915                 920                 925


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


Asp Ile Asn Glu Cys Ala Ser Asp Pro Cys Arg Asn Gly Ala Asn Cys
945                 950                 955                 960


Thr Asp Cys Val Asp Ser Tyr Thr Cys Thr Cys Pro Ala Gly Phe Ser
                965                 970                 975


Gly Ile His Cys Glu Asn Asn Thr Pro Asp Cys Thr Glu Ser Ser Cys
            980                 985                 990


Phe Asn Gly Gly Thr Cys Val Asp  Gly Ile Asn Ser Phe  Thr Cys Leu
        995                 1000                1005


Cys Pro  Pro Gly Phe Thr Gly  Ser Tyr Cys Gln His  Asp Val Asn
    1010                1015                1020


Glu Cys  Asp Ser Gln Pro Cys  Leu His Gly Gly Thr  Cys Gln Asp
    1025                1030                1035


Gly Cys  Gly Ser Tyr Arg Cys  Thr Cys Pro Gln Gly  Tyr Thr Gly
    1040                1045                1050
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Pro Asn  Cys Gln Asn Leu Val  His Trp Cys Asp Ser  Ser Pro Cys
    1055                1060                1065


Lys Asn  Gly Gly Lys Cys Trp  Gln Thr His Thr Gln  Tyr Arg Cys
    1070                1075                1080


Glu Cys  Pro Ser Gly Trp Thr  Gly Leu Tyr Cys Asp  Val Pro Ser
    1085                1090                1095


Val Ser  Cys Glu Val Ala Ala  Gln Arg Gln Gly Val  Asp Val Ala
    1100                1105                1110


Arg Leu  Cys Gln His Gly Gly  Leu Cys Val Asp Ala  Gly Asn Thr
    1115                1120                1125


His His  Cys Arg Cys Gln Ala  Gly Tyr Thr Gly Ser  Tyr Cys Glu
    1130                1135                1140


Asp Leu  Val Asp Glu Cys Ser  Pro Ser Pro Cys Gln  Asn Gly Ala
    1145                1150                1155


Thr Cys  Thr Asp Tyr Leu Gly  Gly Tyr Ser Cys Lys  Cys Val Ala
    1160                1165                1170


Gly Tyr  His Gly Val Asn Cys  Ser Glu Glu Ile Asp  Glu Cys Leu
    1175                1180                1185


Ser His  Pro Cys Gln Asn Gly  Gly Thr Cys Leu Asp  Leu Pro Asn
    1190                1195                1200


Thr Tyr  Lys Cys Ser Cys Pro  Arg Gly Thr Gln Gly  Val His Cys
    1205                1210                1215


Glu Ile  Asn Val Asp Asp Cys  Asn Pro Pro Val Asp  Pro Val Ser
    1220                1225                1230
```

```
Arg Ser  Pro Lys Cys Phe Asn  Asn Gly Thr Cys Val  Asp Gln Val
    1235                1240                1245


Gly Gly  Tyr Ser Cys Thr Cys  Pro Pro Gly Phe Val  Gly Glu Arg
    1250                1255                1260


Cys Glu  Gly Asp Val Asn Glu  Cys Leu Ser Asn Pro  Cys Asp Ala
    1265                1270                1275


Arg Gly  Thr Gln Asn Cys Val  Gln Arg Val Asn Asp  Phe His Cys
    1280                1285                1290


Glu Cys  Arg Ala Gly His Thr  Gly Arg Arg Cys Glu  Ser Val Ile
    1295                1300                1305


Asn Gly  Cys Lys Gly Lys Pro  Cys Lys Asn Gly Gly  Thr Cys Ala
    1310                1315                1320


Val Ala  Ser Asn Thr Ala Arg  Gly Phe Ile Cys Lys  Cys Pro Ala
    1325                1330                1335


Gly Phe  Glu Gly Ala Thr Cys  Glu Asn Asp Ala Arg  Thr Cys Gly
    1340                1345                1350


Ser Leu  Arg Cys Leu Asn Gly  Gly Thr Cys Ile Ser  Gly Pro Arg
    1355                1360                1365


Ser Pro  Thr Cys Leu Cys Leu  Gly Pro Phe Thr Gly  Pro Glu Cys
    1370                1375                1380


Gln Phe  Pro Ala Ser Ser Pro  Cys Leu Gly Gly Asn  Pro Cys Tyr
    1385                1390                1395


Asn Gln  Gly Thr Cys Glu Pro  Thr Ser Glu Ser Pro  Phe Tyr Arg
    1400                1405                1410
```

```
Cys Leu  Cys Pro Ala Lys Phe  Asn Gly Leu Leu Cys  His Ile Leu
    1415                1420                1425


Asp Tyr  Ser Phe Gly Gly Gly  Ala Gly Arg Asp Ile  Pro Pro Pro
    1430                1435                1440


Leu Ile  Glu Glu Ala Cys Glu  Leu Pro Glu Cys Gln  Glu Asp Ala
    1445                1450                1455


Gly Asn  Lys Val Cys Ser Leu  Gln Cys Asn Asn His  Ala Cys Gly
    1460                1465                1470


Trp Asp  Gly Gly Asp Cys Ser  Leu Asn Phe Asn Asp  Pro Trp Lys
    1475                1480                1485


Asn Cys  Thr Gln Ser Leu Gln  Cys Trp Lys Tyr Phe  Ser Asp Gly
    1490                1495                1500


His Cys  Asp Ser Gln Cys Asn  Ser Ala Gly Cys Leu  Phe Asp Gly
    1505                1510                1515


Phe Asp  Cys Gln Arg Ala Glu  Gly Gln Cys Asn Pro  Leu Tyr Asp
    1520                1525                1530


Gln Tyr  Cys Lys Asp His Phe  Ser Asp Gly His Cys  Asp Gln Gly
    1535                1540                1545


Cys Asn  Ser Ala Glu Cys Glu  Trp Asp Gly Leu Asp  Cys Ala Glu
    1550                1555                1560


His Val  Pro Glu Arg Leu Ala  Ala Gly Thr Leu Val  Val Val Val
    1565                1570                1575


Leu Met  Pro Pro Glu Gln Leu  Arg Asn Ser Ser Phe  His Phe Leu
    1580                1585                1590
```

```
Arg Glu  Leu Ser Arg Val Leu  His Thr Asn Val Val  Phe Lys Arg
    1595                1600                1605

Asp Ala  His Gly Gln Gln Met  Ile Phe Pro Tyr Tyr  Gly Arg Glu
    1610                1615                1620

Glu Glu  Leu Arg Lys His Pro  Ile Lys Arg Ala Ala  Glu Gly Trp
    1625                1630                1635

Ala Ala  Pro Asp Ala Leu Leu  Gly Gln Val Lys Ala  Ser Leu Leu
    1640                1645                1650

Pro Gly  Gly Ser Glu Gly Gly  Arg Arg Arg Arg Glu  Leu Asp Pro
    1655                1660                1665

Met Asp  Val Arg Gly Ser Ile  Val Tyr Leu Glu Ile  Asp Asn Arg
    1670                1675                1680

Gln Cys  Val Gln Ala Ser Ser  Gln Cys Phe Gln Ser  Ala Thr Asp
    1685                1690                1695

Val Ala  Ala Phe Leu Gly Ala  Leu Ala Ser Leu Gly  Ser Leu Asn
    1700                1705                1710

Ile Pro  Tyr Lys Ile Glu Ala  Val Gln Ser Glu Thr  Val Glu Pro
    1715                1720                1725

Pro Pro  Pro Ala Gln Leu His  Phe Met Tyr Val Ala  Ala Ala Ala
    1730                1735                1740

Phe Val  Leu Leu Phe Phe Val  Gly Cys Gly Val Leu  Leu Ser Arg
    1745                1750                1755

Lys Arg  Arg Arg Gln His Gly  Gln Leu Trp Phe Pro  Glu Gly Phe
    1760                1765                1770
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```
Lys Val  Ser Glu Ala Ser Lys  Lys Lys Arg Arg Glu  Pro Leu Gly
    1775                 1780                 1785

Glu Asp  Ser Val Gly Leu Lys  Pro Leu Lys Asn Ala  Ser Asp Gly
    1790                 1795                 1800

Ala Leu  Met Asp Asp Asn Gln  Asn Glu Trp Gly Asp  Glu Asp Leu
    1805                 1810                 1815

Glu Thr  Lys Lys Phe Arg Phe  Glu Glu Pro Val Val  Leu Pro Asp
    1820                 1825                 1830

Leu Asp  Asp Gln Thr Asp His  Arg Gln Trp Thr Gln  Gln His Leu
    1835                 1840                 1845

Asp Ala  Ala Asp Leu Arg Met  Ser Ala Met Ala Pro  Thr Pro Pro
    1850                 1855                 1860

Gln Gly  Glu Val Asp Ala Asp  Cys Met Asp Val Asn  Val Arg Gly
    1865                 1870                 1875

Pro Asp  Gly Phe Thr Pro Leu  Met Ile Ala Ser Cys  Ser Gly Gly
    1880                 1885                 1890

Gly Leu  Glu Thr Gly Asn Ser  Glu Glu Glu Glu Asp  Ala Pro Ala
    1895                 1900                 1905

Val Ile  Ser Asp Phe Ile Tyr  Gln Gly Ala Ser Leu  His Asn Gln
    1910                 1915                 1920

Thr Asp  Arg Thr Gly Glu Thr  Ala Leu His Leu Ala  Ala Arg Tyr
    1925                 1930                 1935

Ser Arg  Ser Asp Ala Ala Lys  Arg Leu Leu Glu Ala  Ser Ala Asp
    1940                 1945                 1950
```

```
Ala Asn  Ile Gln Asp Asn Met  Gly Arg Thr Pro Leu  His Ala Ala
    1955                1960                1965

Val Ser  Ala Asp Ala Gln Gly  Val Phe Gln Ile Leu  Ile Arg Asn
    1970                1975                1980

Arg Ala  Thr Asp Leu Asp Ala  Arg Met His Asp Gly  Thr Thr Pro
    1985                1990                1995

Leu Ile  Leu Ala Ala Arg Leu  Ala Val Glu Gly Met  Leu Glu Asp
    2000                2005                2010

Leu Ile  Asn Ser His Ala Asp  Val Asn Ala Val Asp  Asp Leu Gly
    2015                2020                2025

Lys Ser  Ala Leu His Trp Ala  Ala Ala Val Asn Asn  Val Asp Ala
    2030                2035                2040

Ala Val  Val Leu Leu Lys Asn  Gly Ala Asn Lys Asp  Met Gln Asn
    2045                2050                2055

Asn Arg  Glu Glu Thr Pro Leu  Phe Leu Ala Ala Arg  Glu Gly Ser
    2060                2065                2070

Tyr Glu  Thr Ala Lys Val Leu  Leu Asp His Phe Ala  Asn Arg Asp
    2075                2080                2085

Ile Thr  Asp His Met Asp Arg  Leu Pro Arg Asp Ile  Ala Gln Glu
    2090                2095                2100

Arg Met  His His Asp Ile Val  Arg Leu Leu Asp Glu  Tyr Asn Leu
    2105                2110                2115

Val Arg  Ser Pro Gln Leu His  Gly Ala Pro Leu Gly  Gly Thr Pro
    2120                2125                2130
```

```
Thr Leu  Ser Pro Pro Leu Cys  Ser Pro Asn Gly Tyr  Leu Gly Ser
    2135                 2140                 2145


Leu Lys  Pro Gly Val Gln Gly  Lys Lys Val Arg Lys  Pro Ser Ser
    2150                 2155                 2160


Lys Gly  Leu Ala Cys Gly Ser  Lys Glu Ala Lys Asp  Leu Lys Ala
    2165                 2170                 2175


Arg Arg  Lys Lys Ser Gln Asp  Gly Lys Gly Cys Leu  Leu Asp Ser
    2180                 2185                 2190


Ser Gly  Met Leu Ser Pro Val  Asp Ser Leu Glu Ser  Pro His Gly
    2195                 2200                 2205


Tyr Leu  Ser Asp Val Ala Ser  Pro Pro Leu Leu Pro  Ser Pro Phe
    2210                 2215                 2220


Gln Gln  Ser Pro Ser Val Pro  Leu Asn His Leu Pro  Gly Met Pro
    2225                 2230                 2235


Asp Thr  His Leu Gly Ile Gly  His Leu Asn Val Ala  Ala Lys Pro
    2240                 2245                 2250


Glu Met  Ala Ala Leu Gly Gly  Gly Gly Arg Leu Ala  Phe Glu Thr
    2255                 2260                 2265


Gly Pro  Pro Arg Leu Ser His  Leu Pro Val Ala Ser  Gly Thr Ser
    2270                 2275                 2280


Thr Val  Leu Gly Ser Ser Ser  Gly Gly Ala Leu Asn  Phe Thr Val
    2285                 2290                 2295


Gly Gly  Ser Thr Ser Leu Asn  Gly Gln Cys Glu Trp  Leu Ser Arg
    2300                 2305                 2310
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Leu Gln  Ser Gly Met Val Pro  Asn Gln Tyr Asn Pro  Leu Arg Gly
    2315                 2320                 2325


Ser Val  Ala Pro Gly Pro Leu  Ser Thr Gln Ala Pro  Ser Leu Gln
    2330                 2335                 2340


His Gly  Met Val Gly Pro Leu  His Ser Ser Leu Ala  Ala Ser Ala
    2345                 2350                 2355


Leu Ser  Gln Met Met Ser Tyr  Gln Gly Leu Pro Ser  Thr Arg Leu
    2360                 2365                 2370


Ala Thr  Gln Pro His Leu Val  Gln Thr Gln Gln Val  Gln Pro Gln
    2375                 2380                 2385


Asn Leu  Gln Met Gln Gln Gln  Asn Leu Gln Pro Ala  Asn Ile Gln
    2390                 2395                 2400


Gln Gln  Gln Ser Leu Gln Pro  Pro Pro Pro Pro Pro  Gln Pro His
    2405                 2410                 2415


Leu Gly  Val Ser Ser Ala Ala  Ser Gly His Leu Gly  Arg Ser Phe
    2420                 2425                 2430


Leu Ser  Gly Glu Pro Ser Gln  Ala Asp Val Gln Pro  Leu Gly Pro
    2435                 2440                 2445


Ser Ser  Leu Ala Val His Thr  Ile Leu Pro Gln Glu  Ser Pro Ala
    2450                 2455                 2460


Leu Pro  Thr Ser Leu Pro Ser  Ser Leu Val Pro Pro  Val Thr Ala
    2465                 2470                 2475


Ala Gln  Phe Leu Thr Pro Pro  Ser Gln His Ser Tyr  Ser Ser Pro
    2480                 2485                 2490
```

```
Val Asp  Asn Thr Pro Ser His  Gln Leu Gln Val Pro  Glu His Pro
    2495                 2500                 2505


Phe Leu  Thr Pro Ser Pro Glu  Ser Pro Asp Gln Trp  Ser Ser Ser
    2510                 2515                 2520


Ser Pro  His Ser Asn Val Ser  Asp Trp Ser Glu Gly  Val Ser Ser
    2525                 2530                 2535


Pro Pro  Thr Ser Met Gln Ser  Gln Ile Ala Arg Ile  Pro Glu Ala
    2540                 2545                 2550


Phe Lys
    2555
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<212> PRT
<213> Mus musculus

<400> 2

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Met Pro Arg Leu Leu Thr Pro Leu Leu Cys Leu Thr Leu Leu Pro Ala
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Leu Ala Ala Arg Gly Leu Arg Cys Ser Gln Pro Ser Gly Thr Cys Leu
            20                  25                  30


Asn Gly Gly Arg Cys Glu Val Ala Asn Gly Thr Glu Ala Cys Val Cys
        35                  40                  45


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


Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys His Val Val Asp His Gly
65                  70                  75                  80
```

```
Gly Thr Val Asp Tyr Ala Cys Ser Cys Pro Leu Gly Phe Ser Gly Pro
                85                  90                  95

Leu Cys Leu Thr Pro Leu Asp Asn Ala Cys Leu Ala Asn Pro Cys Arg
            100                 105                 110

Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
        115                 120                 125

Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
    130                 135                 140

Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ser
145                 150                 155                 160

Ser Tyr Ile Cys Arg Cys Pro Pro Gly Phe His Gly Pro Thr Cys Arg
                165                 170                 175

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

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

Thr His Thr Gly Pro His Cys Glu Leu Pro Tyr Val Pro Cys Ser Pro
    210                 215                 220

Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Thr Thr
225                 230                 235                 240

His Glu Cys Ala Cys Leu Pro Gly Phe Ala Gly Gln Asn Cys Glu Glu
                245                 250                 255

Asn Val Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
            260                 265                 270
```

```
Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro Glu Trp Thr
        275                 280                 285

Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
    290                 295                 300

Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly Gly Tyr Asn
305                 310                 315                 320

Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile
                325                 330                 335

Asp Asp Cys Ala Ser Ala Ala Cys Phe Gln Gly Ala Thr Cys His Asp
            340                 345                 350

Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
        355                 360                 365

Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
    370                 375                 380

Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
385                 390                 395                 400

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

Ala Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Leu Asn Thr
            420                 425                 430

Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
        435                 440                 445

Cys Glu Ile Asp Val Asn Glu Cys Ile Ser Asn Pro Cys Gln Asn Asp
    450                 455                 460
```

```
Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Ile Cys Met Pro
465                 470                 475                 480


Gly Tyr Glu Gly Val Tyr Cys Glu Ile Asn Thr Asp Glu Cys Ala Ser
                485                 490                 495


Ser Pro Cys Leu His Asn Gly His Cys Met Asp Lys Ile Asn Glu Phe
            500                 505                 510


Gln Cys Gln Cys Pro Lys Gly Phe Asn Gly His Leu Cys Gln Tyr Asp
        515                 520                 525


Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
    530                 535                 540


Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
545                 550                 555                 560


Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
                565                 570                 575


Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Gln
            580                 585                 590


Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys His
        595                 600                 605


Ser Gln Pro Cys Arg His Gly Gly Thr Cys Gln Asp Arg Asp Asn Ser
    610                 615                 620


Tyr Leu Cys Leu Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
625                 630                 635                 640


Asn Leu Asp Asp Cys Ala Ser Asn Pro Cys Asp Ser Gly Thr Cys Leu
                645                 650                 655
```

```
Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
            660                 665                 670

Ser Met Cys Asn Val Asn Ile Asp Glu Cys Ala Gly Ser Pro Cys His
        675                 680                 685

Asn Gly Gly Thr Cys Glu Asp Gly Ile Ala Gly Phe Thr Cys Arg Cys
    690                 695                 700

Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
705                 710                 715                 720

Asn Ser Asn Pro Cys Ile His Gly Ala Cys Arg Asp Gly Leu Asn Gly
                725                 730                 735

Tyr Lys Cys Asp Cys Ala Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
            740                 745                 750

Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
        755                 760                 765

Lys Asp Met Thr Ser Gly Tyr Val Cys Thr Cys Arg Glu Gly Phe Ser
    770                 775                 780

Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
785                 790                 795                 800

Leu Asn Gln Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
                805                 810                 815

Cys Pro Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
            820                 825                 830

Cys Ala Thr Ser Pro Cys Lys Asn Ser Gly Val Cys Lys Glu Ser Glu
        835                 840                 845
```

```
Asp Tyr Glu Ser Phe Ser Cys Val Cys Pro Thr Gly Trp Gln Gly Gln
    850                 855                 860

Thr Cys Glu Val Asp Ile Asn Glu Cys Val Lys Ser Pro Cys Arg His
865                 870                 875                 880

Gly Ala Ser Cys Gln Asn Thr Asn Gly Ser Tyr Arg Cys Leu Cys Gln
                885                 890                 895

Ala Gly Tyr Thr Gly Arg Asn Cys Glu Ser Asp Ile Asp Asp Cys Arg
            900                 905                 910

Pro Asn Pro Cys His Asn Gly Gly Ser Cys Thr Asp Gly Ile Asn Thr
        915                 920                 925

Ala Phe Cys Asp Cys Leu Pro Gly Phe Gln Gly Ala Phe Cys Glu Glu
    930                 935                 940

Asp Ile Asn Glu Cys Ala Ser Asn Pro Cys Gln Asn Gly Ala Asn Cys
945                 950                 955                 960

Thr Asp Cys Val Asp Ser Tyr Thr Cys Thr Cys Pro Val Gly Phe Asn
                965                 970                 975

Gly Ile His Cys Glu Asn Asn Thr Pro Asp Cys Thr Glu Ser Ser Cys
            980                 985                 990

Phe Asn Gly Gly Thr Cys Val Asp  Gly Ile Asn Ser Phe  Thr Cys Leu
        995                 1000                1005

Cys Pro  Pro Gly Phe Thr Gly  Ser Tyr Cys Gln Tyr  Asp Val Asn
    1010                1015                1020

Glu Cys  Asp Ser Arg Pro Cys  Leu His Gly Gly Thr  Cys Gln Asp
    1025                1030                1035
```

```
Ser Tyr  Gly Thr Tyr Lys Cys  Thr Cys Pro Gln Gly  Tyr Thr Gly
    1040                1045                1050

Leu Asn  Cys Gln Asn Leu Val  Arg Trp Cys Asp Ser  Ala Pro Cys
    1055                1060                1065

Lys Asn  Gly Gly Arg Cys Trp  Gln Thr Asn Thr Gln  Tyr His Cys
    1070                1075                1080

Glu Cys  Arg Ser Gly Trp Thr  Gly Val Asn Cys Asp  Val Leu Ser
    1085                1090                1095

Val Ser  Cys Glu Val Ala Ala  Gln Lys Arg Gly Ile  Asp Val Thr
    1100                1105                1110

Leu Leu  Cys Gln His Gly Gly  Leu Cys Val Asp Glu  Gly Asp Lys
    1115                1120                1125

His Tyr  Cys His Cys Gln Ala  Gly Tyr Thr Gly Ser  Tyr Cys Glu
    1130                1135                1140

Asp Glu  Val Asp Glu Cys Ser  Pro Asn Pro Cys Gln  Asn Gly Ala
    1145                1150                1155

Thr Cys  Thr Asp Tyr Leu Gly  Gly Phe Ser Cys Lys  Cys Val Ala
    1160                1165                1170

Gly Tyr  His Gly Ser Asn Cys  Ser Glu Glu Ile Asn  Glu Cys Leu
    1175                1180                1185

Ser Gln  Pro Cys Gln Asn Gly  Gly Thr Cys Ile Asp  Leu Thr Asn
    1190                1195                1200

Ser Tyr  Lys Cys Ser Cys Pro  Arg Gly Thr Gln Gly  Val His Cys
    1205                1210                1215
```

```
Glu Ile  Asn Val Asp Asp Cys  His Pro Pro Leu Asp  Pro Ala Ser
    1220                 1225                 1230


Arg Ser  Pro Lys Cys Phe Asn  Asn Gly Thr Cys Val  Asp Gln Val
    1235                 1240                 1245


Gly Gly  Tyr Thr Cys Thr Cys  Pro Pro Gly Phe Val  Gly Glu Arg
    1250                 1255                 1260


Cys Glu  Gly Asp Val Asn Glu  Cys Leu Ser Asn Pro  Cys Asp Pro
    1265                 1270                 1275


Arg Gly  Thr Gln Asn Cys Val  Gln Arg Val Asn Asp  Phe His Cys
    1280                 1285                 1290


Glu Cys  Arg Ala Gly His Thr  Gly Arg Arg Cys Glu  Ser Val Ile
    1295                 1300                 1305


Asn Gly  Cys Arg Gly Lys Pro  Cys Lys Asn Gly Gly  Val Cys Ala
    1310                 1315                 1320


Val Ala  Ser Asn Thr Ala Arg  Gly Phe Ile Cys Arg  Cys Pro Ala
    1325                 1330                 1335


Gly Phe  Glu Gly Ala Thr Cys  Glu Asn Asp Ala Arg  Thr Cys Gly
    1340                 1345                 1350


Ser Leu  Arg Cys Leu Asn Gly  Gly Thr Cys Ile Ser  Gly Pro Arg
    1355                 1360                 1365


Ser Pro  Thr Cys Leu Cys Leu  Gly Ser Phe Thr Gly  Pro Glu Cys
    1370                 1375                 1380


Gln Phe  Pro Ala Ser Ser Pro  Cys Val Gly Ser Asn  Pro Cys Tyr
    1385                 1390                 1395
```

```
Asn Gln  Gly Thr Cys Glu Pro  Thr Ser Glu Asn Pro  Phe Tyr Arg
    1400                 1405                 1410

Cys Leu  Cys Pro Ala Lys Phe  Asn Gly Leu Leu Cys  His Ile Leu
    1415                 1420                 1425

Asp Tyr  Ser Phe Thr Gly Gly  Ala Gly Arg Asp Ile  Pro Pro Pro
    1430                 1435                 1440

Gln Ile  Glu Glu Ala Cys Glu  Leu Pro Glu Cys Gln  Val Asp Ala
    1445                 1450                 1455

Gly Asn  Lys Val Cys Asn Leu  Gln Cys Asn Asn His  Ala Cys Gly
    1460                 1465                 1470

Trp Asp  Gly Gly Asp Cys Ser  Leu Asn Phe Asn Asp  Pro Trp Lys
    1475                 1480                 1485

Asn Cys  Thr Gln Ser Leu Gln  Cys Trp Lys Tyr Phe  Ser Asp Gly
    1490                 1495                 1500

His Cys  Asp Ser Gln Cys Asn  Ser Ala Gly Cys Leu  Phe Asp Gly
    1505                 1510                 1515

Phe Asp  Cys Gln Leu Thr Glu  Gly Gln Cys Asn Pro  Leu Tyr Asp
    1520                 1525                 1530

Gln Tyr  Cys Lys Asp His Phe  Ser Asp Gly His Cys  Asp Gln Gly
    1535                 1540                 1545

Cys Asn  Ser Ala Glu Cys Glu  Trp Asp Gly Leu Asp  Cys Ala Glu
    1550                 1555                 1560

His Val  Pro Glu Arg Leu Ala  Ala Gly Thr Leu Val  Leu Val Val
    1565                 1570                 1575
```

```
Leu Leu  Pro Pro Asp Gln Leu  Arg Asn Asn Ser Phe  His Phe Leu
    1580                1585                1590


Arg Glu  Leu Ser His Val Leu  His Thr Asn Val Val  Phe Lys Arg
    1595                1600                1605


Asp Ala  Gln Gly Gln Gln Met  Ile Phe Pro Tyr Tyr  Gly His Glu
    1610                1615                1620


Glu Glu  Leu Arg Lys His Pro  Ile Lys Arg Ser Thr  Val Gly Trp
    1625                1630                1635


Ala Thr  Ser Ser Leu Leu Pro  Gly Thr Ser Gly Gly  Arg Gln Arg
    1640                1645                1650


Arg Glu  Leu Asp Pro Met Asp  Ile Arg Gly Ser Ile  Val Tyr Leu
    1655                1660                1665


Glu Ile  Asp Asn Arg Gln Cys  Val Gln Ser Ser Ser  Gln Cys Phe
    1670                1675                1680


Gln Ser  Ala Thr Asp Val Ala  Ala Phe Leu Gly Ala  Leu Ala Ser
    1685                1690                1695


Leu Gly  Ser Leu Asn Ile Pro  Tyr Lys Ile Glu Ala  Val Lys Ser
    1700                1705                1710


Glu Pro  Val Glu Pro Pro Leu  Pro Ser Gln Leu His  Leu Met Tyr
    1715                1720                1725


Val Ala  Ala Ala Ala Phe Val  Leu Leu Phe Phe Val  Gly Cys Gly
    1730                1735                1740


Val Leu  Leu Ser Arg Lys Arg  Arg Arg Gln His Gly  Gln Leu Trp
    1745                1750                1755
```

```
Phe Pro  Glu Gly Phe Lys Val  Ser Glu Ala Ser Lys  Lys Lys Arg
    1760                1765                1770

Arg Glu  Pro Leu Gly Glu Asp  Ser Val Gly Leu Lys  Pro Leu Lys
    1775                1780                1785

Asn Ala  Ser Asp Gly Ala Leu  Met Asp Asp Asn Gln  Asn Glu Trp
    1790                1795                1800

Gly Asp  Glu Asp Leu Glu Thr  Lys Lys Phe Arg Phe  Glu Glu Pro
    1805                1810                1815

Val Val  Leu Pro Asp Leu Ser  Asp Gln Thr Asp His  Arg Gln Trp
    1820                1825                1830

Thr Gln  Gln His Leu Asp Ala  Ala Asp Leu Arg Met  Ser Ala Met
    1835                1840                1845

Ala Pro  Thr Pro Pro Gln Gly  Glu Val Asp Ala Asp  Cys Met Asp
    1850                1855                1860

Val Asn  Val Arg Gly Pro Asp  Gly Phe Thr Pro Leu  Met Ile Ala
    1865                1870                1875

Ser Cys  Ser Gly Gly Gly Leu  Glu Thr Gly Asn Ser  Glu Glu Glu
    1880                1885                1890

Glu Asp  Ala Pro Ala Val Ile  Ser Asp Phe Ile Tyr  Gln Gly Ala
    1895                1900                1905

Ser Leu  His Asn Gln Thr Asp  Arg Thr Gly Glu Thr  Ala Leu His
    1910                1915                1920

Leu Ala  Ala Arg Tyr Ser Arg  Ser Asp Ala Ala Lys  Arg Leu Leu
    1925                1930                1935
```

```
Glu Ala  Ser Ala Asp Ala Asn  Ile Gln Asp Asn Met  Gly Arg Thr
    1940                1945                1950

Pro Leu  His Ala Ala Val Ser  Ala Asp Ala Gln Gly  Val Phe Gln
    1955                1960                1965

Ile Leu  Leu Arg Asn Arg Ala  Thr Asp Leu Asp Ala  Arg Met His
    1970                1975                1980

Asp Gly  Thr Thr Pro Leu Ile  Leu Ala Ala Arg Leu  Ala Val Glu
    1985                1990                1995

Gly Met  Leu Glu Asp Leu Ile  Asn Ser His Ala Asp  Val Asn Ala
    2000                2005                2010

Val Asp  Asp Leu Gly Lys Ser  Ala Leu His Trp Ala  Ala Ala Val
    2015                2020                2025

Asn Asn  Val Asp Ala Ala Val  Val Leu Leu Lys Asn  Gly Ala Asn
    2030                2035                2040

Lys Asp  Met Gln Asn Asn Lys  Glu Glu Thr Pro Leu  Phe Leu Ala
    2045                2050                2055

Ala Arg  Glu Gly Ser Tyr Glu  Thr Ala Lys Val Leu  Leu Asp His
    2060                2065                2070

Phe Ala  Asn Arg Asp Ile Thr  Asp His Met Asp Arg  Leu Pro Arg
    2075                2080                2085

Asp Ile  Ala Gln Glu Arg Met  His His Asp Ile Val  Arg Leu Leu
    2090                2095                2100

Asp Glu  Tyr Asn Leu Val Arg  Ser Pro Gln Leu His  Gly Thr Ala
    2105                2110                2115
```

```
Leu Gly  Gly Thr Pro Thr Leu  Ser Pro Thr Leu Cys  Ser Pro Asn
    2120                 2125                 2130


Gly Tyr  Leu Gly Asn Leu Lys  Ser Ala Thr Gln Gly  Lys Lys Ala
    2135                 2140                 2145


Arg Lys  Pro Ser Thr Lys Gly  Leu Ala Cys Gly Ser  Lys Glu Ala
    2150                 2155                 2160


Lys Asp  Leu Lys Ala Arg Arg  Lys Lys Ser Gln Asp  Gly Lys Gly
    2165                 2170                 2175


Cys Leu  Leu Asp Ser Ser Ser  Met Leu Ser Pro Val  Asp Ser Leu
    2180                 2185                 2190


Glu Ser  Pro His Gly Tyr Leu  Ser Asp Val Ala Ser  Pro Pro Leu
    2195                 2200                 2205


Leu Pro  Ser Pro Phe Gln Gln  Ser Pro Ser Met Pro  Leu Ser His
    2210                 2215                 2220


Leu Pro  Gly Met Pro Asp Thr  His Leu Gly Ile Ser  His Leu Asn
    2225                 2230                 2235


Val Ala  Ala Lys Pro Glu Met  Ala Ala Leu Ala Gly  Gly Ser Arg
    2240                 2245                 2250


Leu Ala  Phe Glu Pro Pro Pro  Pro Arg Leu Ser His  Leu Pro Val
    2255                 2260                 2265


Ala Ser  Ser Ala Ser Thr Val  Leu Ser Thr Asn Gly  Thr Gly Ala
    2270                 2275                 2280


Met Asn  Phe Thr Val Gly Ala  Pro Ala Ser Leu Asn  Gly Gln Cys
    2285                 2290                 2295
```

```
Glu Trp  Leu Pro Arg Leu Gln  Asn Gly Met Val Pro  Ser Gln Tyr
    2300                 2305                 2310

Asn Pro  Leu Arg Pro Gly Val  Thr Pro Gly Thr Leu  Ser Thr Gln
    2315                 2320                 2325

Ala Ala  Gly Leu Gln His Ser  Met Met Gly Pro Leu  His Ser Ser
    2330                 2335                 2340

Leu Ser  Thr Asn Thr Leu Ser  Pro Ile Ile Tyr Gln  Gly Leu Pro
    2345                 2350                 2355

Asn Thr  Arg Leu Ala Thr Gln  Pro His Leu Val Gln  Thr Gln Gln
    2360                 2365                 2370

Val Gln  Pro Gln Asn Leu Gln  Leu Gln Pro Gln Asn  Leu Gln Pro
    2375                 2380                 2385

Pro Ser  Gln Pro His Leu Ser  Val Ser Ser Ala Ala  Asn Gly His
    2390                 2395                 2400

Leu Gly  Arg Ser Phe Leu Ser  Gly Glu Pro Ser Gln  Ala Asp Val
    2405                 2410                 2415

Gln Pro  Leu Gly Pro Ser Ser  Leu Pro Val His Thr  Ile Leu Pro
    2420                 2425                 2430

Gln Glu  Ser Gln Ala Leu Pro  Thr Ser Leu Pro Ser  Ser Met Val
    2435                 2440                 2445

Pro Pro  Met Thr Thr Thr Gln  Phe Leu Thr Pro Pro  Ser Gln His
    2450                 2455                 2460

Ser Tyr  Ser Ser Ser Pro Val  Asp Asn Thr Pro Ser  His Gln Leu
    2465                 2470                 2475
```

```
Gln Val  Pro Glu His Pro Phe  Leu Thr Pro Ser Pro  Glu Ser Pro
    2480                 2485                 2490


Asp Gln  Trp Ser Ser Ser Ser  Pro His Ser Asn Ile  Ser Asp Trp
    2495                 2500                 2505


Ser Glu  Gly Ile Ser Ser Pro  Pro Thr Thr Met Pro  Ser Gln Ile
    2510                 2515                 2520


Thr His  Ile Pro Glu Ala Phe  Lys
    2525                 2530
```

<210> 3
<211> 1429
<212> PRT
<213> Caenorhabditis elegans

<400> 3

```
Met Arg Ile Pro Thr Ile Cys Phe Leu Phe Leu Leu Ile Ser Leu Ser
1               5                  10                  15


Lys Ser Leu His Ile Gly Ser Cys Leu Gly Leu Ile Cys Gly Arg Asn
            20                  25                  30


Gly His Cys His Ala Gly Pro Val Asn Gly Thr Gln Thr Ser Tyr Trp
        35                  40                  45


Cys Arg Cys Asp Glu Gly Phe Gly Gly Glu Tyr Cys Glu Gln Gln Cys
    50                  55                  60


Asp Val Ser Lys Cys Gly Ala Asp Glu Lys Cys Val Phe Asp Lys Asp
65                  70                  75                  80


Tyr Arg Met Glu Thr Cys Val Cys Lys Asp Cys Asp Ile Asn Gly Asn
                85                  90                  95


Ser Leu Leu Lys Pro Ser Cys Pro Ser Gly Tyr Gly Gly Asp Asp Cys
```

```
            100                 105                 110

Lys Thr Gln Gly Trp Cys Tyr Pro Ser Val Cys Met Asn Gly Gly Gln
        115                 120                 125

Cys Ile Gly Ala Gly Asn Arg Ala Lys Cys Ala Cys Pro Asp Gly Phe
    130                 135                 140

Lys Gly Glu Arg Cys Glu Leu Asp Val Asn Glu Cys Glu Glu Asn Lys
145                 150                 155                 160

Asn Ala Cys Gly Asn Arg Ser Thr Cys Met Asn Thr Leu Gly Thr Tyr
                165                 170                 175

Ile Cys Val Cys Pro Gln Gly Phe Leu Pro Pro Asp Cys Leu Lys Pro
            180                 185                 190

Gly Asn Thr Ser Thr Val Glu Phe Lys Gln Pro Val Cys Phe Leu Glu
        195                 200                 205

Ile Ser Ala Asp His Pro Asp Gly Arg Ser Met Tyr Cys Gln Asn Gly
    210                 215                 220

Gly Phe Cys Asp Lys Ala Ser Ser Lys Cys Gln Cys Pro Pro Gly Tyr
225                 230                 235                 240

His Gly Ser Thr Cys Glu Leu Leu Glu Lys Glu Asp Ser Cys Ala Ser
                245                 250                 255

Asn Pro Cys Ser His Gly Val Cys Ile Ser Phe Ser Gly Gly Phe Gln
            260                 265                 270

Cys Ile Cys Asp Asp Gly Tyr Ser Gly Ser Tyr Cys Gln Glu Gly Lys
        275                 280                 285

Asp Asn Cys Val Asn Asn Lys Cys Glu Ala Gly Ser Lys Cys Ile Asn
```

```
    290                 295                 300

Gly Val Asn Ser Tyr Phe Cys Asp Cys Pro Pro Glu Arg Thr Gly Pro
305                 310                 315                 320

Tyr Cys Glu Lys Met Asp Cys Ser Ala Ile Pro Asp Ile Cys Asn His
                325                 330                 335

Gly Thr Cys Ile Asp Ser Pro Leu Ser Glu Lys Ala Phe Glu Cys Gln
            340                 345                 350

Cys Glu Pro Gly Tyr Glu Gly Ile Leu Cys Glu Gln Asp Lys Asn Glu
        355                 360                 365

Cys Leu Ser Glu Asn Met Cys Leu Asn Asn Gly Thr Cys Val Asn Leu
    370                 375                 380

Pro Gly Ser Phe Arg Cys Asp Cys Ala Arg Gly Phe Gly Gly Lys Trp
385                 390                 395                 400

Cys Asp Glu Pro Leu Asn Met Cys Gln Asp Phe His Cys Glu Asn Asp
                405                 410                 415

Gly Thr Cys Met His Thr Ser Asp His Ser Pro Val Cys Gln Cys Lys
            420                 425                 430

Asn Gly Phe Ile Gly Lys Arg Cys Glu Lys Glu Cys Pro Ile Gly Phe
        435                 440                 445

Gly Gly Val Arg Cys Asp Leu Arg Leu Glu Ile Gly Ile Cys Ser Arg
    450                 455                 460

Gln Gly Gly Lys Cys Phe Asn Gly Gly Lys Cys Leu Ser Gly Phe Cys
465                 470                 475                 480

Val Cys Pro Pro Asp Phe Thr Gly Asn Gln Cys Glu Val Asn Arg Lys
```

485 490 495

Asn Gly Lys Ser Ser Leu Ser Glu Asn Leu Cys Leu Ser Asp Pro Cys
500 505 510

Met Asn Asn Ala Thr Cys Ile Asp Val Asp Ala His Ile Gly Tyr Ala
515 520 525

Cys Ile Cys Lys Gln Gly Phe Glu Gly Asp Ile Cys Glu Arg His Lys
530 535 540

Asp Leu Cys Leu Glu Asn Pro Cys Ser Asn Gly Gly Val Cys His Gln
545 550 555 560

His Arg Glu Ser Phe Ser Cys Asp Cys Pro Pro Gly Phe Tyr Gly Asn
565 570 575

Gly Cys Glu Gln Glu Lys Met Phe Arg Cys Leu Lys Ser Thr Cys Gln
580 585 590

Asn Gly Gly Val Cys Ile Asn Glu Glu Glu Lys Gly Arg Lys Cys Glu
595 600 605

Cys Ser Tyr Gly Phe Ser Gly Ala Arg Cys Glu Glu Lys Ile Asn Leu
610 615 620

Thr Gly Phe Thr Glu Lys Asp Ser Leu Leu Arg Ser Val Cys Glu Lys
625 630 635 640

Arg Lys Cys Ser Glu Arg Ala Asn Asp Gly Asn Cys Asp Ala Asp Cys
645 650 655

Asn Tyr Ala Ala Cys Lys Phe Asp Gly Gly Asp Cys Ser Gly Lys Arg
660 665 670

Glu Pro Phe Ser Lys Cys Arg Tyr Gly Asn Met Cys Ala Asp Phe Phe

675 680 685

Ala Asn Gly Val Cys Asn Gln Ala Cys Asn Asn Glu Glu Cys Leu Tyr
690 695 700

Asp Gly Met Asp Cys Leu Pro Ala Val Val Arg Cys Pro Val Lys Ile
705 710 715 720

Arg Glu His Cys Ala Ser Arg Phe Ala Asn Gly Ile Cys Asp Pro Glu
725 730 735

Cys Asn Thr Asn Gly Cys Gly Phe Asp Gly Gly Asp Cys Asp Asn Glu
740 745 750

Thr Asn Ala Thr Ile Ile Thr Asn Ile Arg Ile Thr Val Gln Met Asp
755 760 765

Pro Lys Glu Phe Gln Val Thr Gly Gly Gln Ser Leu Met Glu Ile Ser
770 775 780

Ser Ala Leu Arg Val Thr Val Arg Ile Gln Arg Asp Glu Glu Gly Pro
785 790 795 800

Leu Val Phe Gln Trp Asn Gly Glu Ser Glu Met Asp Arg Val Lys Met
805 810 815

Asn Glu Arg Gln Leu Thr Glu Gln His Val Leu Ser Thr Ser Ile Ser
820 825 830

Arg Lys Ile Lys Arg Ser Ala Thr Asn Ile Gly Val Val Val Tyr Leu
835 840 845

Glu Val Gln Glu Asn Cys Asp Thr Gly Lys Cys Leu Tyr Lys Asp Ala
850 855 860

Gln Ser Val Val Asp Ser Ile Ser Ala Arg Leu Ala Lys Lys Gly Ile

```
865                 870                 875                 880

Asp Ser Phe Gly Ile Pro Ile Ser Glu Ala Leu Val Ala Glu Pro Arg
                885                 890                 895

Lys Ser Gly Asn Asn Thr Gly Phe Leu Ser Trp Asn Ala Leu Leu Leu
            900                 905                 910

Ile Gly Ala Gly Cys Leu Ile Val Met Val Val Leu Met Leu Gly Ala
        915                 920                 925

Leu Pro Gly Asn Arg Thr Arg Lys Arg Arg Met Ile Asn Ala Ser Val
    930                 935                 940

Trp Met Pro Pro Met Glu Asn Glu Glu Lys Asn Arg Lys Asn His Gln
945                 950                 955                 960

Ser Ile Thr Ser Ser Gln His Ser Leu Leu Glu Ala Ser Tyr Asp Gly
                965                 970                 975

Tyr Ile Lys Arg Gln Arg Asn Glu Leu Gln His Tyr Ser Leu Tyr Pro
            980                 985                 990

Asn Pro Gln Gly Tyr Gly Asn Gly  Asn Asp Phe Leu Gly  Asp Phe Asn
        995                 1000                1005

His Thr  Asn Leu Gln Ile Pro  Thr Glu Pro Glu Pro  Glu Ser Pro
    1010                1015                1020

Ile Lys  Leu His Thr Glu Ala  Ala Gly Ser Tyr Ala  Ile Thr Glu
    1025                1030                1035

Pro Ile  Thr Arg Glu Ser Val  Asn Ile Ile Asp Pro  Arg His Asn
    1040                1045                1050

Arg Thr  Val Leu His Trp Ile  Ala Ser Asn Ser Ser  Ala Glu Lys
```

```
    1055                1060                1065

Ser Glu  Asp Leu Ile Val His  Glu Ala Lys Glu Cys  Ile Ala Ala
    1070                1075                1080

Gly Ala  Asp Val Asn Ala Met  Asp Cys Asp Glu Asn  Thr Pro Leu
    1085                1090                1095

Met Leu  Ala Val Leu Ala Arg  Arg Arg Arg Leu Val  Ala Tyr Leu
    1100                1105                1110

Met Lys  Ala Gly Ala Asp Pro  Thr Ile Tyr Asn Lys  Ser Glu Arg
    1115                1120                1125

Ser Ala  Leu His Gln Ala Ala  Ala Asn Arg Asp Phe  Gly Met Met
    1130                1135                1140

Val Tyr  Met Leu Asn Ser Thr  Lys Leu Lys Gly Asp  Ile Glu Glu
    1145                1150                1155

Leu Asp  Arg Asn Gly Met Thr  Ala Leu Met Ile Val  Ala His Asn
    1160                1165                1170

Glu Gly  Arg Asp Gln Val Ala  Ser Ala Lys Leu Leu  Val Glu Lys
    1175                1180                1185

Gly Ala  Lys Val Asp Tyr Asp  Gly Ala Ala Arg Lys  Asp Ser Glu
    1190                1195                1200

Lys Tyr  Lys Gly Arg Thr Ala  Leu His Tyr Ala Ala  Gln Val Ser
    1205                1210                1215

Asn Met  Pro Ile Val Lys Tyr  Leu Val Gly Glu Lys  Gly Ser Asn
    1220                1225                1230

Lys Asp  Lys Gln Asp Glu Asp  Gly Lys Thr Pro Ile  Met Leu Ala
```

1235 1240 1245

Ala Gln Glu Gly Arg Ile Glu Val Val Met Tyr Leu Ile Gln Gln
1250 1255 1260

Gly Ala Ser Val Glu Ala Val Asp Ala Thr Asp His Thr Ala Arg
1265 1270 1275

Gln Leu Ala Gln Ala Asn Asn His His Asn Ile Val Asp Ile Phe
1280 1285 1290

Asp Arg Cys Arg Pro Glu Arg Glu Tyr Ser Met Asp Leu His Ile
1295 1300 1305

Gln His Thr His Gln Pro Gln Pro Ser Arg Lys Val Thr Arg Ala
1310 1315 1320

Pro Lys Lys Gln Thr Ser Arg Ser Lys Lys Glu Ser Ala Ser Asn
1325 1330 1335

Ser Arg Asp Ser Thr His Leu Thr Pro Pro Pro Ser Asp Gly Ser
1340 1345 1350

Thr Ser Thr Pro Ser Pro Gln His Phe Met Asn Thr Thr His Thr
1355 1360 1365

Thr Pro Thr Ser Leu Asn Tyr Leu Ser Pro Glu Tyr Gln Thr Glu
1370 1375 1380

Ala Gly Ser Ser Glu Ala Phe Gln Pro Gln Cys Gly Ala Phe Gly
1385 1390 1395

Asn Gly Glu Met Trp Tyr Thr Arg Ala Ser Thr Ser Tyr Thr Gln
1400 1405 1410

Met Gln Asn Glu Pro Met Thr Arg Tyr Ser Glu Pro Ala His Tyr

1415 1420 1425

Phe

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<211> 2703
<212> PRT
<213> Drosophila melanogaster

<400> 4

Met Gln Ser Gln Arg Ser Arg Arg Arg Ser Arg Ala Pro Asn Thr Trp
1 5 10 15

Ile Cys Phe Trp Ile Asn Lys Met His Ala Val Ala Ser Leu Pro Ala
20 25 30

Ser Leu Pro Leu Leu Leu Leu Thr Leu Ala Phe Ala Asn Leu Pro Asn
35 40 45

Thr Val Arg Gly Thr Asp Thr Ala Leu Val Ala Ala Ser Cys Thr Ser
50 55 60

Val Gly Cys Gln Asn Gly Gly Thr Cys Val Thr Gln Leu Asn Gly Lys
65 70 75 80

Thr Tyr Cys Ala Cys Asp Ser His Tyr Val Gly Asp Tyr Cys Glu His
85 90 95

Arg Asn Pro Cys Asn Ser Met Arg Cys Gln Asn Gly Gly Thr Cys Gln
100 105 110

Val Thr Phe Arg Asn Gly Arg Pro Gly Ile Ser Cys Lys Cys Pro Leu
115 120 125

Gly Phe Asp Glu Ser Leu Cys Glu Ile Ala Val Pro Asn Ala Cys Asp
130 135 140

```
His Val Thr Cys Leu Asn Gly Gly Thr Cys Gln Leu Lys Thr Leu Glu
145                 150                 155                 160

Glu Tyr Thr Cys Ala Cys Ala Asn Gly Tyr Thr Gly Glu Arg Cys Glu
                165                 170                 175

Thr Lys Asn Leu Cys Ala Ser Ser Pro Cys Arg Asn Gly Ala Thr Cys
            180                 185                 190

Thr Ala Leu Ala Gly Ser Ser Ser Phe Thr Cys Ser Cys Pro Pro Gly
        195                 200                 205

Phe Thr Gly Asp Thr Cys Ser Tyr Asp Ile Glu Glu Cys Gln Ser Asn
    210                 215                 220

Pro Cys Lys Tyr Gly Gly Thr Cys Val Asn Thr His Gly Ser Tyr Gln
225                 230                 235                 240

Cys Met Cys Pro Thr Gly Tyr Thr Gly Lys Asp Cys Asp Thr Lys Tyr
                245                 250                 255

Lys Pro Cys Ser Pro Ser Pro Cys Gln Asn Gly Gly Ile Cys Arg Ser
            260                 265                 270

Asn Gly Leu Ser Tyr Glu Cys Lys Cys Pro Lys Gly Phe Glu Gly Lys
        275                 280                 285

Asn Cys Glu Gln Asn Tyr Asp Asp Cys Leu Gly His Leu Cys Gln Asn
    290                 295                 300

Gly Gly Thr Cys Ile Asp Gly Ile Ser Asp Tyr Thr Cys Arg Cys Pro
305                 310                 315                 320

Pro Asn Phe Thr Gly Arg Phe Cys Gln Asp Asp Val Asp Glu Cys Ala
                325                 330                 335
```

```
Gln Arg Asp His Pro Val Cys Gln Asn Gly Ala Thr Cys Thr Asn Thr
            340                 345                 350

His Gly Ser Tyr Ser Cys Ile Cys Val Asn Gly Trp Ala Gly Leu Asp
        355                 360                 365

Cys Ser Asn Asn Thr Asp Asp Cys Lys Gln Ala Ala Cys Phe Tyr Gly
    370                 375                 380

Ala Thr Cys Ile Asp Gly Val Gly Ser Phe Tyr Cys Gln Cys Thr Lys
385                 390                 395                 400

Gly Lys Thr Gly Leu Leu Cys His Leu Asp Asp Ala Cys Thr Ser Asn
                405                 410                 415

Pro Cys His Ala Asp Ala Ile Cys Asp Thr Ser Pro Ile Asn Gly Ser
            420                 425                 430

Tyr Ala Cys Ser Cys Ala Thr Gly Tyr Lys Gly Val Asp Cys Ser Glu
        435                 440                 445

Asp Ile Asp Glu Cys Asp Gln Gly Ser Pro Cys Glu His Asn Gly Ile
    450                 455                 460

Cys Val Asn Thr Pro Gly Ser Tyr Arg Cys Asn Cys Ser Gln Gly Phe
465                 470                 475                 480

Thr Gly Pro Arg Cys Glu Thr Asn Ile Asn Glu Cys Glu Ser His Pro
                485                 490                 495

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

Val Cys Met Pro Gly Phe Thr Gly Thr Gln Cys Glu Ile Asp Ile Asp
        515                 520                 525
```

```
Glu Cys Gln Ser Asn Pro Cys Leu Asn Asp Gly Thr Cys His Asp Lys
    530                 535                 540

Ile Asn Gly Phe Lys Cys Ser Cys Ala Leu Gly Phe Thr Gly Ala Arg
545                 550                 555                 560

Cys Gln Ile Asn Ile Asp Asp Cys Gln Ser Gln Pro Cys Arg Asn Arg
                565                 570                 575

Gly Ile Cys His Asp Ser Ile Ala Gly Tyr Ser Cys Glu Cys Pro Pro
            580                 585                 590

Gly Tyr Thr Gly Thr Ser Cys Glu Ile Asn Ile Asn Asp Cys Asp Ser
        595                 600                 605

Asn Pro Cys His Arg Gly Lys Cys Ile Asp Asp Val Asn Ser Phe Lys
    610                 615                 620

Cys Leu Cys Asp Pro Gly Tyr Thr Gly Tyr Ile Cys Gln Lys Gln Ile
625                 630                 635                 640

Asn Glu Cys Glu Ser Asn Pro Cys Gln Phe Asp Gly His Cys Gln Asp
                645                 650                 655

Arg Val Gly Ser Tyr Tyr Cys Gln Cys Gln Ala Gly Thr Ser Gly Lys
            660                 665                 670

Asn Cys Glu Val Asn Val Asn Glu Cys His Ser Asn Pro Cys Asn Asn
        675                 680                 685

Gly Ala Thr Cys Ile Asp Gly Ile Asn Ser Tyr Lys Cys Gln Cys Val
    690                 695                 700

Pro Gly Phe Thr Gly Gln His Cys Glu Lys Asn Val Asp Glu Cys Ile
705                 710                 715                 720
```

```
Ser Ser Pro Cys Ala Asn Asn Gly Val Cys Ile Asp Gln Val Asn Gly
                725                 730                 735

Tyr Lys Cys Glu Cys Pro Arg Gly Phe Tyr Asp Ala His Cys Leu Ser
            740                 745                 750

Asp Val Asp Glu Cys Ala Ser Asn Pro Cys Val Asn Glu Gly Arg Cys
        755                 760                 765

Glu Asp Gly Ile Asn Glu Phe Ile Cys His Cys Pro Pro Gly Tyr Thr
    770                 775                 780

Gly Lys Arg Cys Glu Leu Asp Ile Asp Glu Cys Ser Ser Asn Pro Cys
785                 790                 795                 800

Gln His Gly Gly Thr Cys Tyr Asp Lys Leu Asn Ala Phe Ser Cys Gln
                805                 810                 815

Cys Met Pro Gly Tyr Thr Gly Gln Lys Cys Glu Thr Asn Ile Asp Asp
            820                 825                 830

Cys Val Thr Asn Pro Cys Gly Asn Gly Gly Thr Cys Ile Asp Lys Val
        835                 840                 845

Asn Gly Tyr Lys Cys Val Cys Lys Val Pro Phe Thr Gly Arg Asp Cys
    850                 855                 860

Glu Ser Lys Met Asp Pro Cys Ala Ser Asn Arg Cys Lys Asn Glu Ala
865                 870                 875                 880

Lys Cys Thr Pro Ser Ser Asn Phe Leu Asp Phe Ser Cys Thr Cys Lys
                885                 890                 895

Leu Gly Tyr Thr Gly Arg Tyr Cys Asp Glu Asp Ile Asp Glu Cys Ser
            900                 905                 910
```

```
Leu Ser Ser Pro Cys Arg Asn Gly Ala Ser Cys Leu Asn Val Pro Gly
        915                 920                 925

Ser Tyr Arg Cys Leu Cys Thr Lys Gly Tyr Glu Gly Arg Asp Cys Ala
    930                 935                 940

Ile Asn Thr Asp Asp Cys Ala Ser Phe Pro Cys Gln Asn Gly Gly Thr
945                 950                 955                 960

Cys Leu Asp Gly Ile Gly Asp Tyr Ser Cys Leu Cys Val Asp Gly Phe
                965                 970                 975

Asp Gly Lys His Cys Glu Thr Asp Ile Asn Glu Cys Leu Ser Gln Pro
            980                 985                 990

Cys Gln Asn Gly Ala Thr Cys Ser  Gln Tyr Val Asn Ser  Tyr Thr Cys
        995                 1000                1005

Thr Cys  Pro Leu Gly Phe Ser  Gly Ile Asn Cys Gln  Thr Asn Asp
    1010                1015                1020

Glu Asp  Cys Thr Glu Ser Ser  Cys Leu Asn Gly Gly  Ser Cys Ile
    1025                1030                1035

Asp Gly  Ile Asn Gly Tyr Asn  Cys Ser Cys Leu Ala  Gly Tyr Ser
    1040                1045                1050

Gly Ala  Asn Cys Gln Tyr Lys  Leu Asn Lys Cys Asp  Ser Asn Pro
    1055                1060                1065

Cys Leu  Asn Gly Ala Thr Cys  His Glu Gln Asn Asn  Glu Tyr Thr
    1070                1075                1080

Cys His  Cys Pro Ser Gly Phe  Thr Gly Lys Gln Cys  Ser Glu Tyr
    1085                1090                1095
```

```
Val Asp  Trp Cys Gly Gln Ser  Pro Cys Glu Asn Gly  Ala Thr Cys
    1100                1105                1110

Ser Gln  Met Lys His Gln Phe  Ser Cys Lys Cys Ser  Ala Gly Trp
    1115                1120                1125

Thr Gly  Lys Leu Cys Asp Val  Gln Thr Ile Ser Cys  Gln Asp Ala
    1130                1135                1140

Ala Asp  Arg Lys Gly Leu Ser  Leu Arg Gln Leu Cys  Asn Asn Gly
    1145                1150                1155

Thr Cys  Lys Asp Tyr Gly Asn  Ser His Val Cys Tyr  Cys Ser Gln
    1160                1165                1170

Gly Tyr  Ala Gly Ser Tyr Cys  Gln Lys Glu Ile Asp  Glu Cys Gln
    1175                1180                1185

Ser Gln  Pro Cys Gln Asn Gly  Gly Thr Cys Arg Asp  Leu Ile Gly
    1190                1195                1200

Ala Tyr  Glu Cys Gln Cys Arg  Gln Gly Phe Gln Gly  Gln Asn Cys
    1205                1210                1215

Glu Leu  Asn Ile Asp Asp Cys  Ala Pro Asn Pro Cys  Gln Asn Gly
    1220                1225                1230

Gly Thr  Cys His Asp Arg Val  Met Asn Phe Ser Cys  Ser Cys Pro
    1235                1240                1245

Pro Gly  Thr Met Gly Ile Ile  Cys Glu Ile Asn Lys  Asp Asp Cys
    1250                1255                1260

Lys Pro  Gly Ala Cys His Asn  Asn Gly Ser Cys Ile  Asp Arg Val
    1265                1270                1275
```

```
Gly Gly  Phe Glu Cys Val Cys  Gln Pro Gly Phe Val  Gly Ala Arg
    1280                1285                1290

Cys Glu  Gly Asp Ile Asn Glu  Cys Leu Ser Asn Pro  Cys Ser Asn
    1295                1300                1305

Ala Gly  Thr Leu Asp Cys Val  Gln Leu Val Asn Asn  Tyr His Cys
    1310                1315                1320

Asn Cys  Arg Pro Gly His Met  Gly Arg His Cys Glu  His Lys Val
    1325                1330                1335

Asp Phe  Cys Ala Gln Ser Pro  Cys Gln Asn Gly Gly  Asn Cys Asn
    1340                1345                1350

Ile Arg  Gln Ser Gly His His  Cys Ile Cys Asn Asn  Gly Phe Tyr
    1355                1360                1365

Gly Lys  Asn Cys Glu Leu Ser  Gly Gln Asp Cys Asp  Ser Asn Pro
    1370                1375                1380

Cys Arg  Val Gly Asn Cys Val  Val Ala Asp Glu Gly  Phe Gly Tyr
    1385                1390                1395

Arg Cys  Glu Cys Pro Arg Gly  Thr Leu Gly Glu His  Cys Glu Ile
    1400                1405                1410

Asp Thr  Leu Asp Glu Cys Ser  Pro Asn Pro Cys Ala  Gln Gly Ala
    1415                1420                1425

Ala Cys  Glu Asp Leu Leu Gly  Asp Tyr Glu Cys Leu  Cys Pro Ser
    1430                1435                1440

Lys Trp  Lys Gly Lys Arg Cys  Asp Ile Tyr Asp Ala  Asn Tyr Pro
    1445                1450                1455
```

```
Gly Trp  Asn Gly Gly Ser Gly  Ser Gly Asn Asp Arg  Tyr Ala Ala
    1460                 1465                 1470

Asp Leu  Glu Gln Gln Arg Ala  Met Cys Asp Lys Arg  Gly Cys Thr
    1475                 1480                 1485

Glu Lys  Gln Gly Asn Gly Ile  Cys Asp Ser Asp Cys  Asn Thr Tyr
    1490                 1495                 1500

Ala Cys  Asn Phe Asp Gly Asn  Asp Cys Ser Leu Gly  Ile Asn Pro
    1505                 1510                 1515

Trp Ala  Asn Cys Thr Ala Asn  Glu Cys Trp Asn Lys  Phe Lys Asn
    1520                 1525                 1530

Gly Lys  Cys Asn Glu Glu Cys  Asn Asn Ala Ala Cys  His Tyr Asp
    1535                 1540                 1545

Gly His  Asp Cys Glu Arg Lys  Leu Lys Ser Cys Asp  Ser Leu Phe
    1550                 1555                 1560

Asp Ala  Tyr Cys Gln Lys His  Tyr Gly Asp Gly Phe  Cys Asp Tyr
    1565                 1570                 1575

Gly Cys  Asn Asn Ala Glu Cys  Ser Trp Asp Gly Leu  Asp Cys Glu
    1580                 1585                 1590

Asn Lys  Thr Gln Ser Pro Val  Leu Ala Glu Gly Ala  Met Ser Val
    1595                 1600                 1605

Val Met  Leu Met Asn Val Glu  Ala Phe Arg Glu Ile  Gln Ala Gln
    1610                 1615                 1620

Phe Leu  Arg Asn Met Ser His  Met Leu Arg Thr Thr  Val Arg Leu
    1625                 1630                 1635
```

```
Lys Lys  Asp Ala Leu Gly His  Asp Ile Ile Ile Asn  Trp Lys Asp
    1640                1645                1650

Asn Val  Arg Val Pro Glu Ile  Glu Asp Thr Asp Phe  Ala Arg Lys
    1655                1660                1665

Asn Lys  Ile Leu Tyr Thr Gln  Gln Val His Gln Thr  Gly Ile Gln
    1670                1675                1680

Ile Tyr  Leu Glu Ile Asp Asn  Arg Lys Cys Thr Glu  Cys Phe Thr
    1685                1690                1695

His Ala  Val Glu Ala Ala Glu  Phe Leu Ala Ala Thr  Ala Ala Lys
    1700                1705                1710

His Gln  Leu Arg Asn Asp Phe  Gln Ile His Ser Val  Arg Gly Ile
    1715                1720                1725

Lys Asn  Pro Gly Asp Glu Asp  Asn Gly Glu Pro Pro  Ala Asn Val
    1730                1735                1740

Lys Tyr  Val Ile Thr Gly Ile  Ile Leu Val Ile Ile  Ala Leu Ala
    1745                1750                1755

Phe Phe  Gly Met Val Leu Ser  Thr Gln Arg Lys Arg  Ala His Gly
    1760                1765                1770

Val Thr  Trp Phe Pro Glu Gly  Phe Arg Ala Pro Ala  Ala Val Met
    1775                1780                1785

Ser Arg  Arg Arg Arg Asp Pro  His Gly Gln Glu Met  Arg Asn Leu
    1790                1795                1800

Asn Lys  Gln Val Ala Met Gln  Ser Gln Gly Val Gly  Gln Pro Gly
    1805                1810                1815
```

```
Ala His  Trp Ser Asp Asp Glu  Ser Asp Met Pro Leu  Pro Lys Arg
    1820                1825                1830

Gln Arg  Ser Asp Pro Val Ser  Gly Val Gly Leu Gly  Asn Asn Gly
    1835                1840                1845

Gly Tyr  Ala Ser Asp His Thr  Met Val Ser Glu Tyr  Glu Glu Ala
    1850                1855                1860

Asp Gln  Arg Val Trp Ser Gln  Ala His Leu Asp Val  Val Asp Val
    1865                1870                1875

Arg Ala  Ile Met Thr Pro Pro  Ala His Gln Asp Gly  Gly Lys His
    1880                1885                1890

Asp Val  Asp Ala Arg Gly Pro  Cys Gly Leu Thr Pro  Leu Met Ile
    1895                1900                1905

Ala Ala  Val Arg Gly Gly Gly  Leu Asp Thr Gly Glu  Asp Ile Glu
    1910                1915                1920

Asn Asn  Glu Asp Ser Thr Ala  Gln Val Ile Ser Asp  Leu Leu Ala
    1925                1930                1935

Gln Gly  Ala Glu Leu Asn Ala  Thr Met Asp Lys Thr  Gly Glu Thr
    1940                1945                1950

Ser Leu  His Leu Ala Ala Arg  Phe Ala Arg Ala Asp  Ala Ala Lys
    1955                1960                1965

Arg Leu  Leu Asp Ala Gly Ala  Asp Ala Asn Cys Gln  Asp Asn Thr
    1970                1975                1980

Gly Arg  Thr Pro Leu His Ala  Ala Val Ala Ala Asp  Ala Met Gly
    1985                1990                1995
```

```
Val Phe  Gln Ile Leu Leu Arg  Asn Arg Ala Thr Asn  Leu Asn Ala
    2000                2005                2010

Arg Met  His Asp Gly Thr Thr  Pro Leu Ile Leu Ala  Ala Arg Leu
    2015                2020                2025

Ala Ile  Glu Gly Met Val Glu  Asp Leu Ile Thr Ala  Asp Ala Asp
    2030                2035                2040

Ile Asn  Ala Ala Asp Asn Ser  Gly Lys Thr Ala Leu  His Trp Ala
    2045                2050                2055

Ala Ala  Val Asn Asn Thr Glu  Ala Val Asn Ile Leu  Leu Met His
    2060                2065                2070

His Ala  Asn Arg Asp Ala Gln  Asp Asp Lys Asp Glu  Thr Pro Leu
    2075                2080                2085

Phe Leu  Ala Ala Arg Glu Gly  Ser Tyr Glu Ala Cys  Lys Ala Leu
    2090                2095                2100

Leu Asp  Asn Phe Ala Asn Arg  Glu Ile Thr Asp His  Met Asp Arg
    2105                2110                2115

Leu Pro  Arg Asp Val Ala Ser  Glu Arg Leu His His  Asp Ile Val
    2120                2125                2130

Arg Leu  Leu Asp Glu His Val  Pro Arg Ser Pro Gln  Met Leu Ser
    2135                2140                2145

Met Thr  Pro Gln Ala Met Ile  Gly Ser Pro Pro Pro  Gly Gln Gln
    2150                2155                2160

Gln Pro  Gln Leu Ile Thr Gln  Pro Thr Val Ile Ser  Ala Gly Asn
    2165                2170                2175
```

```
Gly Gly  Asn Asn Gly Asn Gly  Asn Ala Ser Gly Lys  Gln Ser Asn
    2180                2185                2190

Gln Thr  Ala Lys Gln Lys Ala  Ala Lys Lys Ala Lys  Leu Ile Glu
    2195                2200                2205

Gly Ser  Pro Asp Asn Gly Leu  Asp Ala Thr Gly Ser  Leu Arg Arg
    2210                2215                2220

Lys Ala  Ser Ser Lys Lys Thr  Ser Ala Ala Ser Lys  Lys Ala Ala
    2225                2230                2235

Asn Leu  Asn Gly Leu Asn Pro  Gly Gln Leu Thr Gly  Gly Val Ser
    2240                2245                2250

Gly Val  Pro Gly Val Pro Pro  Thr Asn Ser Ala Ala  Gln Ala Ala
    2255                2260                2265

Ala Ala  Ala Ala Ala Ala Val  Ala Ala Met Ser His  Glu Leu Glu
    2270                2275                2280

Gly Ser  Pro Val Gly Val Gly  Met Gly Gly Asn Leu  Pro Ser Pro
    2285                2290                2295

Tyr Asp  Thr Ser Ser Met Tyr  Ser Asn Ala Met Ala  Ala Pro Leu
    2300                2305                2310

Ala Asn  Gly Asn Pro Asn Thr  Gly Ala Lys Gln Pro  Pro Ser Tyr
    2315                2320                2325

Glu Asp  Cys Ile Lys Asn Ala  Gln Ser Met Gln Ser  Leu Gln Gly
    2330                2335                2340

Asn Gly  Leu Asp Met Ile Lys  Leu Asp Asn Tyr Ala  Tyr Ser Met
    2345                2350                2355
```

```
Gly Ser  Pro Phe Gln Gln Glu  Leu Leu Asn Gly Gln  Gly Leu Gly
    2360                2365                2370

Met Asn  Gly Asn Gly Gln Arg  Asn Gly Val Gly Pro  Gly Val Leu
    2375                2380                2385

Pro Gly  Gly Leu Cys Gly Met  Gly Gly Leu Ser Gly  Ala Gly Asn
    2390                2395                2400

Gly Asn  Ser His Glu Gln Gly  Leu Ser Pro Pro Tyr  Ser Asn Gln
    2405                2410                2415

Ser Pro  Pro His Ser Val Gln  Ser Ser Leu Ala Leu  Ser Pro His
    2420                2425                2430

Ala Tyr  Leu Gly Ser Pro Ser  Pro Ala Lys Ser Arg  Pro Ser Leu
    2435                2440                2445

Pro Thr  Ser Pro Thr His Ile  Gln Ala Met Arg His  Ala Thr Gln
    2450                2455                2460

Gln Lys  Gln Phe Gly Gly Ser  Asn Leu Asn Ser Leu  Leu Gly Gly
    2465                2470                2475

Ala Asn  Gly Gly Gly Val Val  Gly Gly Gly Gly Gly  Gly Gly Gly
    2480                2485                2490

Gly Val  Gly Gln Gly Pro Gln  Asn Ser Pro Val Ser  Leu Gly Ile
    2495                2500                2505

Ile Ser  Pro Thr Gly Ser Asp  Met Gly Ile Met Leu  Ala Pro Pro
    2510                2515                2520

Gln Ser  Ser Lys Asn Ser Ala  Ile Met Gln Thr Ile  Ser Pro Gln
    2525                2530                2535
```

```
Gln Gln  Gln Gln Gln Gln Gln  Gln Gln Gln Gln Gln  His Gln Gln
    2540                2545                2550

Gln Gln  Gln Gln Gln Gln Gln  Gln Gln Gln Gln Gln  Gln Gln Gln
    2555                2560                2565

Leu Gly  Gly Leu Glu Phe Gly  Ser Ala Gly Leu Asp  Leu Asn Gly
    2570                2575                2580

Phe Cys  Gly Ser Pro Asp Ser  Phe His Ser Gly Gln  Met Asn Pro
    2585                2590                2595

Pro Ser  Ile Gln Ser Ser Met  Ser Gly Ser Ser Pro  Ser Thr Asn
    2600                2605                2610

Met Leu  Ser Pro Ser Ser Gln  His Asn Gln Gln Ala  Phe Tyr Gln
    2615                2620                2625

Tyr Leu  Thr Pro Ser Ser Gln  His Ser Gly Gly His  Thr Pro Gln
    2630                2635                2640

His Leu  Val Gln Thr Leu Asp  Ser Tyr Pro Thr Pro  Ser Pro Glu
    2645                2650                2655

Ser Pro  Gly His Trp Ser Ser  Ser Ser Pro Arg Ser  Asn Ser Asp
    2660                2665                2670

Trp Ser  Glu Gly Val Gln Ser  Pro Ala Ala Asn Asn  Leu Tyr Ile
    2675                2680                2685

Ser Gly  Gly His Gln Ala Asn  Lys Gly Ser Glu Ala  Ile Tyr Ile
    2690                2695                2700
```

<210> 5
<211> 2900

<212> PRT
<213> Bos taurus

<400> 5

```
Met Thr Pro Val Cys Thr Pro Thr Arg Pro Gly Pro Cys Ala His Pro
1               5                  10                  15


Ala Leu Pro Arg Ser Thr Pro His Ser Ile Thr Asp Ser Ser Arg Ala
            20                  25                  30


Glu Pro Ile Glu Ser Phe Leu Val Leu Ser Pro Ala Leu Glu Leu Arg
        35                  40                  45


Leu Leu Leu Ala Val Val Gly Gln Asp Thr Pro Leu Gly Asp Val Trp
    50                  55                  60


Ala Gly Gly Lys Ala Ser Gly Gly Gly Asp Thr Glu Gly Pro Leu Ser
65                  70                  75                  80


Glu Gly Ser Lys Glu Gly Glu Ala Ala Thr Gly Pro Gln Ala Pro Gly
                85                  90                  95


Ala Glu Trp His Ala Pro Pro Arg Ser Thr Cys Leu Ser Ser Thr Pro
            100                 105                 110


Arg Pro Glu Ala Val Pro Pro Ser Leu Pro Cys Arg Ser Pro Gly Trp
        115                 120                 125


Gly Ala Cys Gly Gly Arg Arg Pro Gly Pro Ala Leu Glu Pro Ala His
    130                 135                 140


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


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

```
Ala Ser Leu Ala Pro Ala Pro Pro Pro Ala Cys Arg Gly Trp Gln Pro
            180                 185                 190

Pro Leu Arg Trp Pro Gly Ala Ala Ala Ala Arg Val Pro Gly His Arg
        195                 200                 205

Arg Thr Cys Ser Pro Ala Ala Leu Cys Pro Cys Cys Arg Cys Leu Ile
    210                 215                 220

Tyr Trp Ala Arg Phe Ser Ser His Cys Asn Ser Arg Ser Leu Pro Gly
225                 230                 235                 240

Gln Asp Ala Leu Gly Pro Gly Leu Trp Val Pro Ser Ala Thr Gln Ala
                245                 250                 255

Gly Thr Arg Gln Pro Val Thr Gly Ser Thr Leu Ser Gly Gly His Ala
            260                 265                 270

Thr Phe Pro Arg Leu Gln Gly Met Ala Leu Pro Glu Pro Glu Gly Glu
        275                 280                 285

Gly Pro Pro Thr Thr Ser Ala Gln Gly Cys Gly Pro Ser Val Arg Ala
    290                 295                 300

Ala Phe Pro Gly Arg Cys Gln Leu Gly Ala Val Gly Ala Phe His Pro
305                 310                 315                 320

Arg Gly Ser Ala Ala Gly Lys Arg Glu Ala Trp Leu Val Pro Glu Pro
                325                 330                 335

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

His Val Pro Pro Arg Leu Lys Lys Pro Arg Gln Gln Val Ala Lys Gly
        355                 360                 365
```

```
Gly Pro Gly Ala Gly Val Ala Gly Ala Glu Pro Phe Pro Val Gly Ser
    370                 375                 380

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

Pro Gly Ser Pro Ala Thr Val Ala Ala Arg Glu Pro Ala Gln Gly Leu
                405                 410                 415

Pro Asp Cys Gly Gly Ala Phe Ala Gly Gln Gln Cys Gln Ala Pro Asn
            420                 425                 430

Pro Cys Leu Ser Ala Pro Cys Lys Asn Gly Gly Thr Cys His Thr Thr
        435                 440                 445

Glu Arg Glu Gly Leu Val Asp Tyr Val Cys Gly Cys Arg Leu Gly Phe
    450                 455                 460

Ser Gly Pro Leu Cys Leu Thr Pro Arg Asp His Ala Cys Leu Ala Ser
465                 470                 475                 480

Pro Cys Leu Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr
                485                 490                 495

Lys Cys Leu Cys Thr Pro Gly Trp Ser Gly Lys Thr Cys Gln Gln Ala
            500                 505                 510

Asp Pro Cys Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro
        515                 520                 525

Phe Glu Ala Ser Tyr Ile Cys His Cys Pro Pro Gly Phe His Gly Pro
    530                 535                 540

Thr Cys Arg Gln Asp Val Asn Glu Cys Ser Gln Ser Pro Gly Leu Cys
545                 550                 555                 560
```

```
His His Gly Gly Thr Cys Leu Asn Glu Val Gly Ser Tyr Arg Cys Val
                565                 570                 575

Cys Arg Pro Thr His Thr Gly Pro His Cys Glu Leu Pro Tyr Val Pro
            580                 585                 590

Cys Ser Pro Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly
        595                 600                 605

Asp Thr Thr His Glu Cys Ala Cys Leu Pro Gly Phe Thr Gly Gln Asn
    610                 615                 620

Cys Glu Glu Asn Ile Asp Asp Cys Pro Gly Asn Ser Cys Lys Asn Gly
625                 630                 635                 640

Gly Ala Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
                645                 650                 655

Glu Trp Thr Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu
            660                 665                 670

Met Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly
        675                 680                 685

Gly Tyr Asn Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser
    690                 695                 700

Glu Asn Ile Asp Asp Cys Ala Ser Ala Ser Cys Phe Gln Gly Ala Thr
705                 710                 715                 720

Cys His Asp Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg
                725                 730                 735

Thr Gly Leu Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys
            740                 745                 750
```

```
Asn Glu Gly Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile
        755                 760                 765

Cys Thr Cys Pro Ser Gly Tyr Thr Gly Pro Ala Cys Ser Gln Asp Val
    770                 775                 780

Asp Glu Cys Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys
785                 790                 795                 800

Ile Asn Thr Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr
                805                 810                 815

Gly Pro Arg Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys
            820                 825                 830

Gln Asn Asp Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Ile
        835                 840                 845

Cys Met Pro Gly Tyr Glu Gly Leu His Cys Glu Val Asn Thr Asp Glu
    850                 855                 860

Cys Ala Ser Ser Pro Cys Leu Gln Asn Gly Arg Cys Leu Asp Lys Ile
865                 870                 875                 880

Asn Glu Phe Val Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys
                885                 890                 895

Gln Tyr Asp Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala
            900                 905                 910

Lys Cys Leu Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly
        915                 920                 925

Tyr Thr Gly Pro His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp
    930                 935                 940
```

```
Pro Cys His Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys
945                 950                 955                 960


Leu Cys Gln Pro Gly Tyr Thr Gly His His Cys Glu Ser Asn Ile Asn
                965                 970                 975


Glu Cys His Ser Gln Pro Cys Arg His Gly Gly Thr Cys Gln Asp Arg
            980                 985                 990


Asp Asn Ala Tyr Leu Cys Phe Cys  Leu Lys Gly Thr Thr  Gly Pro Asn
        995                 1000                1005


Cys Glu  Ile Asn Leu Asp Asp  Cys Ala Ser Asn Pro  Cys Asp Ser
    1010                1015                1020


Gly Thr  Cys Leu Asp Lys Ile  Asp Gly Tyr Glu Cys  Ala Cys Glu
    1025                1030                1035


Pro Gly  Tyr Thr Gly Ser Met  Cys Asn Ile Asn Ile  Asp Glu Cys
    1040                1045                1050


Ala Asp  Ser Pro Cys His Asn  Gly Gly Thr Cys Glu  Asp Gly Ile
    1055                1060                1065


Asn Gly  Phe Thr Cys Arg Cys  Pro Glu Gly Tyr His  Asp Pro Thr
    1070                1075                1080


Cys Leu  Ser Glu Val Asn Glu  Cys Ser Ser Asn Pro  Cys Ile His
    1085                1090                1095


Gly Ala  Cys Arg Asp Ser Leu  Asn Gly Tyr Lys Cys  Asp Cys Asp
    1100                1105                1110


Pro Gly  Trp Ser Gly Ala Asn  Cys Asp Val Asn Asn  Asp Glu Cys
    1115                1120                1125
```

```
Glu Ser  Asn Pro Cys Ile Asn  Gly Gly Thr Cys Lys  Asp Met Thr
    1130                1135                1140


Ser Gly  Tyr Val Cys Ala Cys  Arg Glu Gly Phe Ser  Gly Pro Asn
    1145                1150                1155


Cys Gln  Thr Asn Ile Asn Glu  Cys Ala Ser Asn Pro  Cys Leu Asn
    1160                1165                1170


Gln Gly  Thr Cys Ile Asp Asp  Val Ala Gly Tyr Lys  Cys Asn Cys
    1175                1180                1185


Leu Leu  Pro Tyr Thr Gly Ala  Thr Cys Glu Val Val  Leu Ala Pro
    1190                1195                1200


Cys Ala  Pro Gly Pro Cys Arg  Asn Gly Gly Glu Cys  Arg Glu Ser
    1205                1210                1215


Glu Asp  Tyr Glu Ser Phe Ser  Cys Ala Cys Pro Ala  Gly Trp Gln
    1220                1225                1230


Gly Gln  Thr Cys Glu Ile Asp  Ile Asn Glu Cys Val  Lys Ser Pro
    1235                1240                1245


Cys Arg  Ala Gly Ala Ser Cys  Gln Asn Thr Asn Gly  Ser Tyr Arg
    1250                1255                1260


Cys His  Cys Gln Ala Gly Tyr  Thr Gly Arg Asn Cys  Glu Thr Asp
    1265                1270                1275


Ile Asp  Asp Cys Arg Pro Asn  Pro Cys His Asn Gly  Gly Ser Cys
    1280                1285                1290


Thr Asp  Gly Ile Asn Thr Ala  Phe Cys Asp Cys Leu  Pro Gly Phe
    1295                1300                1305
```

```
Gln Gly  Ala Phe Cys Glu Glu  Asp Ile Asn Glu Cys  Ala Ser Ser
    1310                1315                1320

Pro Cys  Arg Asn Gly Ala Asn  Cys Thr Asp Cys Val  Asp Ser Tyr
    1325                1330                1335

Thr Cys  Thr Cys Pro Thr Gly  Phe Ser Gly Ile His  Cys Glu Asn
    1340                1345                1350

Asn Thr  Pro Asp Cys Thr Glu  Ser Ser Cys Phe Asn  Gly Gly Thr
    1355                1360                1365

Cys Val  Asp Gly Ile Asn Ser  Phe Thr Cys Leu Cys  Pro Pro Gly
    1370                1375                1380

Phe Thr  Gly Ser Tyr Cys Gln  His Asp Val Asn Glu  Cys Asp Ser
    1385                1390                1395

Arg Pro  Cys Leu His Gly Gly  Thr Cys His Asp Ser  Tyr Gly Thr
    1400                1405                1410

Tyr Thr  Cys Thr Cys Pro Gln  Gly Tyr Thr Gly Leu  Asn Cys Gln
    1415                1420                1425

Thr Leu  Val Arg Trp Cys Asp  Ser Ser Pro Cys Lys  Asn Asp Gly
    1430                1435                1440

Arg Cys  Trp Gln Thr Asn Ala  Leu Tyr Arg Cys Glu  Cys His Ser
    1445                1450                1455

Gly Trp  Thr Gly Leu Tyr Cys  Asp Val Pro Ser Val  Ser Cys Glu
    1460                1465                1470

Val Ala  Ala Arg Gln Gln Gly  Val Asn Val Thr His  Leu Cys Arg
    1475                1480                1485
```

```
Asn Gly  Gly Leu Cys Met Asn  Ala Gly Asn Thr His  Arg Cys His
    1490                 1495                 1500

Cys Gln  Ala Gly Tyr Thr Gly  Ser Tyr Cys Glu Glu  Gln Val Asp
    1505                 1510                 1515

Glu Cys  Ser Pro Ser Pro Cys  Gln Asn Gly Ala Thr  Cys Thr Asp
    1520                 1525                 1530

Tyr Pro  Gly Gly Tyr Ser Cys  Glu Cys Val Ala Gly  Tyr His Gly
    1535                 1540                 1545

Val Asn  Cys Ser Glu Glu Val  Asn Glu Cys Leu Ser  Gln Pro Cys
    1550                 1555                 1560

Arg Asn  Gly Gly Thr Cys Ile  Asp Leu Thr Asn Thr  Tyr Lys Cys
    1565                 1570                 1575

Ser Cys  Pro Arg Gly Thr Gln  Gly Val His Cys Glu  Ile Asn Val
    1580                 1585                 1590

Asp Asp  Cys Asn Pro Pro Ile  Asp Pro Val Ser Arg  Gly Pro Lys
    1595                 1600                 1605

Cys Phe  Asn Asn Gly Thr Cys  Val Asp Gln Val Gly  Gly Tyr Ser
    1610                 1615                 1620

Cys Ser  Cys Pro Pro Gly Phe  Val Gly Glu Arg Cys  Glu Gly Asp
    1625                 1630                 1635

Val Asn  Glu Cys Leu Ser Asn  Pro Cys Asp Ala Arg  Gly Thr Gln
    1640                 1645                 1650

Asn Cys  Val Gln His Val Asn  Ala Phe His Cys Glu  Cys Arg Ala
    1655                 1660                 1665
```

```
Gly His  Thr Gly Arg Arg Cys  Glu Ser Val Ile Asn  Gly Cys Lys
    1670                 1675                 1680

Asp Arg  Pro Cys Lys Asn Gly  Gly Ser Cys Ala Val  Ala Ser Asn
    1685                 1690                 1695

Thr Ala  Arg Gly Phe Ile Cys  Lys Cys Pro Ala Gly  Phe Glu Gly
    1700                 1705                 1710

Ala Thr  Cys Glu Asn Asp Ala  Arg Ser Cys Gly Ser  Leu Arg Cys
    1715                 1720                 1725

Leu Asn  Gly Gly Thr Cys Ile  Ala Gly Pro Arg Ser  Pro Thr Cys
    1730                 1735                 1740

Leu Cys  Leu Gly Pro Phe Thr  Gly Pro Glu Cys Gln  Phe Pro Ala
    1745                 1750                 1755

Ser Ser  Pro Cys Val Gly Gly  Asn Pro Cys Tyr Asn  Gln Gly Val
    1760                 1765                 1770

Cys Glu  Pro Thr Ala Glu Ser  Pro Phe Tyr Arg Cys  Arg Cys Pro
    1775                 1780                 1785

Ala Lys  Phe Asn Gly Leu Leu  Cys His Ile Leu Asp  Tyr Ser Phe
    1790                 1795                 1800

Gly Gly  Gly Val Gly Leu Asp  Ile Pro Pro Pro Gln  Ile Glu Glu
    1805                 1810                 1815

Thr Cys  Glu Leu Pro Gly Cys  Arg Glu Glu Ala Gly  Asn Lys Val
    1820                 1825                 1830

Cys Ser  Leu Gln Cys Asn Ser  His Ala Cys Gly Trp  Asp Gly Gly
    1835                 1840                 1845
```

```
Asp Cys  Ser Leu Asp Phe Asp  Asp Pro Trp Gln Asn  Cys Thr Gln
    1850                1855                1860

Ser Leu  Gln Cys Trp Lys Tyr  Phe Ser Asn Gly Arg  Cys Asp Ser
    1865                1870                1875

Gln Cys  Asn Ser Ala Gly Cys  Leu Phe Asp Gly Phe  Asp Cys Gln
    1880                1885                1890

Arg Ala  Glu Gly Gln Cys Asn  Pro Leu Tyr Asp Gln  Tyr Cys Lys
    1895                1900                1905

Asp His  Phe Arg Asp Gly His  Cys Asp Gln Gly Cys  Asn Ser Ala
    1910                1915                1920

Glu Cys  Glu Trp Asp Gly Leu  Asp Cys Ala Glu His  Val Pro Glu
    1925                1930                1935

Arg Leu  Ala Ala Gly Thr Leu  Val Leu Val Val Leu  Met Pro Pro
    1940                1945                1950

Glu Gln  Leu Arg Asn Arg Ser  Leu His Phe Leu Arg  Glu Leu Ser
    1955                1960                1965

Arg Leu  Leu His Thr Asn Val  Val Phe Lys Arg Asp  Ala Ser Gly
    1970                1975                1980

Gln Gln  Met Ile Phe Pro Tyr  Tyr Gly Arg Ala Pro  Leu Pro Ala
    1985                1990                1995

Gly Glu  Arg Ser Glu Glu Cys  Arg Cys Glu His His  Ala Cys Pro
    2000                2005                2010

Ala Gly  Ala Gly Gln Gly Glu  Pro Ser Gly Pro Leu  Cys Thr Ser
    2015                2020                2025
```

```
Arg Ser  Ile Val Tyr Leu Glu  Ile Asp Asn Arg Gln  Cys Val Gln
    2030                 2035                 2040

Ser Ser  Ser Gln Cys Phe Gln  Ser Ala Thr Asp Val  Ala Ala Phe
    2045                 2050                 2055

Leu Gly  Ala Leu Ala Ser Leu  Gly Ser Leu Asn Ile  Pro Tyr Lys
    2060                 2065                 2070

Ile Glu  Ala Val Gln Ser Glu  Thr Val Glu Pro Pro  Pro Pro Pro
    2075                 2080                 2085

Pro Leu  His Phe Met Tyr Val  Ala Val Val Ala Phe  Val Leu Leu
    2090                 2095                 2100

Phe Phe  Val Gly Cys Gly Val  Leu Leu Ser Arg Lys  Arg Arg Arg
    2105                 2110                 2115

Gln His  Gly Gln Leu Trp Phe  Pro Glu Gly Phe Lys  Val Ser Glu
    2120                 2125                 2130

Ala Ser  Lys Lys Lys Arg Arg  Glu Pro Leu Gly Glu  Asp Ser Val
    2135                 2140                 2145

Gly Leu  Lys Pro Leu Lys Asn  Ser Ser Asp Gly Ala  Leu Met Asp
    2150                 2155                 2160

Asp Asn  Gln Asn Glu Trp Gly  Asp Glu Gly Leu Glu  Ala Lys Lys
    2165                 2170                 2175

Phe Arg  Phe Glu Glu Pro Val  Val Leu Pro Asp Leu  Asp Asp Gln
    2180                 2185                 2190

Thr Asp  His Arg Gln Trp Thr  Gln Gln His Leu Asp  Ala Ala Asp
    2195                 2200                 2205
```

```
Leu Arg  Val Ser Ala Met Ala  Pro Thr Pro Pro Gln  Gly Glu Ala
    2210                2215                2220


Asp Ala  Asp Cys Met Asp Val  Asn Val Arg Gly Pro  Asp Gly Phe
    2225                2230                2235


Thr Pro  Leu Met Ile Ala Ser  Cys Ser Gly Gly Gly  Leu Glu Thr
    2240                2245                2250


Gly Asn  Ser Glu Glu Glu Glu  Asp Ala Pro Ala Val  Ile Ser Asp
    2255                2260                2265


Phe Ile  Tyr Gln Gly Ala Ser  Leu His Asn Gln Thr  Asp Arg Thr
    2270                2275                2280


Gly Glu  Thr Ala Leu His Leu  Ala Ala Arg Tyr Ser  Arg Ser Asp
    2285                2290                2295


Ala Ala  Lys Arg Leu Leu Glu  Ala Ser Ala Asp Ala  Asn Ile Gln
    2300                2305                2310


Asp Asn  Met Gly Arg Thr Pro  Leu His Ala Ala Val  Ser Ala Asp
    2315                2320                2325


Ala Gln  Gly Val Phe Gln Ile  Leu Ile Arg Asn Arg  Ala Thr Asp
    2330                2335                2340


Leu Asp  Ala Arg Met His Asp  Gly Thr Thr Pro Leu  Ile Leu Ala
    2345                2350                2355


Ala Arg  Leu Ala Val Glu Gly  Met Leu Glu Asp Leu  Ile Asn Ser
    2360                2365                2370


His Ala  Asp Val Asn Ala Val  Asp Asp Leu Gly Lys  Ser Ala Leu
    2375                2380                2385
```

```
His Trp  Ala Ala Ala Val Asn  Asn Val Glu Ala Ala  Val Val Leu
    2390                2395                2400

Leu Lys  Asn Gly Ala Asn Lys  Asp Met Gln Asn Asn  Lys Glu Glu
    2405                2410                2415

Thr Pro  Leu Phe Leu Ala Ala  Arg Glu Gly Ser Tyr  Glu Thr Ala
    2420                2425                2430

Lys Val  Leu Leu Asp His Phe  Ala Asn Arg Asp Ile  Thr Asp His
    2435                2440                2445

Met Asp  Arg Leu Pro Arg Asp  Ile Ala Gln Glu Arg  Met His His
    2450                2455                2460

Asp Ile  Val Arg Leu Leu Asp  Glu Tyr Ser Leu Val  Arg Ser Pro
    2465                2470                2475

Pro Leu  His Gly Ala Thr Leu  Gly Gly Thr Pro Thr  Leu Ser Pro
    2480                2485                2490

Pro Leu  Cys Ser Pro Asn Gly  Tyr Leu Gly Asn Leu  Lys Pro Pro
    2495                2500                2505

Met Gln  Gly Lys Lys Ala Arg  Lys Pro Ser Thr Lys  Gly Leu Ala
    2510                2515                2520

Cys Gly  Gly Lys Glu Pro Lys  Asp Leu Lys Ala Arg  Arg Lys Lys
    2525                2530                2535

Ser Gln  Asp Gly Lys Gly Cys  Leu Leu Asp Ser Gly  Ser Val Met
    2540                2545                2550

Ser Pro  Val Asp Ser Leu Glu  Ser Pro His Gly Tyr  Leu Ser Asp
    2555                2560                2565
```

```
Val Ala  Ser Pro Pro Leu Leu  Pro Ser Pro Phe Gln  Pro Ser Pro
    2570                 2575                 2580

Ser Val  Pro Leu Asn His Leu  Pro Gly Met Pro Glu  Thr His Leu
    2585                 2590                 2595

Gly Val  Ser His Leu Ser Val  Ala Ala Lys Pro Glu  Met Ala Val
    2600                 2605                 2610

Leu Ser  Gly Gly Ser Arg Leu  Ala Phe Glu Ala Gly  Pro Pro Arg
    2615                 2620                 2625

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

Ser Gly  Gly Ser Gly Gly Ser  Gly Ala Val Asn Phe  Thr Val Gly
    2645                 2650                 2655

Gly Ala  Ala Gly Leu Asn Gly  Gln Cys Glu Trp Leu  Ser Arg Leu
    2660                 2665                 2670

Gln Asn  Gly Leu Val Pro Asn  Gln Tyr Asn Pro Leu  Arg Gly Gly
    2675                 2680                 2685

Val Thr  Pro Gly Thr Leu Ser  Thr Gln Ala Ala Gly  Leu Gln His
    2690                 2695                 2700

Gly Thr  Val Gly Pro Leu His  Ala Pro Ala Leu Ser  Gln Val Met
    2705                 2710                 2715

Thr Tyr  Gln Ala Leu Pro Ser  Thr Arg Leu Ala Ser  Gln Pro His
    2720                 2725                 2730

Leu Val  Gln Pro Gln Gln Asn  Leu Gln Met Gln Pro  Pro Ser Met
    2735                 2740                 2745
```

```
Pro Pro  Gln Pro Asn Leu Gln  Pro His Leu Gly Val  Ser Ser Ala
    2750                 2755                 2760


Ala Ser  Gly His Leu Gly Arg  Ser Phe Leu Gly Gly  Glu Leu Ser
    2765                 2770                 2775


Gln Ala  Asp Met Gln Pro Leu  Gly Pro Gly Asn Leu  Ala Ala His
    2780                 2785                 2790


Thr Val  Leu Pro Gln Asp Gly  Gln Val Leu Pro Thr  Ser Leu Pro
    2795                 2800                 2805


Ser Thr  Leu Ala Pro Pro Thr  Met Ala Pro Pro Met  Thr Thr Ala
    2810                 2815                 2820


Gln Phe  Leu Thr Pro Pro Ser  Gln His Ser Tyr Ser  Ser Ser Pro
    2825                 2830                 2835


Val Asp  Asn Thr Pro Ser His  Gln Leu Gln Val Pro  Glu His Pro
    2840                 2845                 2850


Phe Leu  Thr Pro Ser Pro Glu  Ser Pro Asp Gln Trp  Ser Ser Ser
    2855                 2860                 2865


Ser Pro  His Ser Asn Ile Ser  Asp Trp Ser Glu Gly  Ile Ser Ser
    2870                 2875                 2880


Pro Pro  Thr Ser Val Pro Ser  Gln Ile Ala His Val  Pro Glu Ala
    2885                 2890                 2895


Phe Lys
    2900
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<210> 6
<211> 2561
<212> PRT

<213> Gallus gallus

<400> 6

```
Met Gly Arg Cys Ser Ala Ala His Pro Arg Gly Gly Val His Cys Pro
1               5                   10                  15


Gly Leu Cys Ala Val Pro Asp Ala Leu Leu Leu Phe Pro Gly Val Arg
            20                  25                  30


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


Phe Leu Asn Gly Thr Glu Val Cys Gln Cys Ser Ser Ala His Met Gly
    50                  55                  60


Glu Arg Cys Gln Leu Pro Asn Pro Cys Leu Ser Ser Pro Cys Lys Asn
65                  70                  75                  80


Ala Gly Thr Cys Ile Pro Leu Leu Arg Gly Ser Thr Ala Asp Tyr Thr
                85                  90                  95


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


Asp Asn Ala Cys Leu Asn Asn Pro Cys Arg Asn Gly Gly Thr Cys Asp
        115                 120                 125


Leu Val Thr Leu Ser Glu Tyr Lys Cys Arg Cys Pro Pro Gly Trp Ser
    130                 135                 140


Gly Lys Thr Cys Gln Gln Ala Asp Pro Cys Ala Ser Asn Pro Cys Ala
145                 150                 155                 160


Asn Gly Gly Gln Cys Val Pro Phe Glu Ala His Tyr Ile Cys Arg Cys
                165                 170                 175
```

```
Thr Ala Gly Phe His Gly Ala Asn Cys Lys Gln Asp Val Asn Glu Cys
            180                 185                 190

Asn Ile Ser Pro Pro Val Cys Lys Asn Gly Gly Ser Cys Thr Asn Glu
        195                 200                 205

Val Gly Thr Tyr Gln Cys Ser Cys Lys Pro Ala Tyr Thr Gly Gln Asn
    210                 215                 220

Cys Glu His Leu Tyr Val Pro Cys Asn Pro Ser Pro Cys Gln Asn Gly
225                 230                 235                 240

Gly Thr Cys Arg Gln Thr Gly Asp Thr Thr Tyr Asp Cys Thr Cys Leu
                245                 250                 255

Pro Gly Phe Thr Gly Gln Asn Cys Glu Glu Asn Ile Asp Asp Cys Pro
            260                 265                 270

Gly Asn Asn Cys Arg Asn Gly Gly Thr Cys Val Asp Gly Val Asn Thr
        275                 280                 285

Tyr Asn Cys Gln Cys Pro Pro Glu Trp Thr Gly Gln Tyr Cys Thr Glu
    290                 295                 300

Asp Val Asp Glu Cys Gln Leu Met Pro Asn Ala Cys Gln Asn Gly Gly
305                 310                 315                 320

Thr Cys His Asn Asn His Gly Gly Tyr Asn Cys Val Cys Val Asn Gly
                325                 330                 335

Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile Asp Asp Cys Ala Met Ala
            340                 345                 350

Ala Cys Phe Gln Gly Ala Thr Cys His Asp Arg Val Ala Ser Phe Tyr
        355                 360                 365
```

```
Cys Glu Cys Pro His Gly Arg Thr Gly Leu Leu Cys His Leu Asp Asp
    370                 375                 380

Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly Ser Asn Cys Asp Thr Asn
385                 390                 395                 400

Pro Val Asn Gly Lys Ala Ile Cys Thr Cys Pro Ser Gly Tyr Met Gly
                405                 410                 415

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

Cys Glu His Ala Gly Lys Cys Ile Asn Thr Gln Gly Ser Phe Gln Cys
        435                 440                 445

Gln Cys Leu Gln Gly Tyr Ser Gly Pro Arg Cys Glu Ile Asp Val Asn
    450                 455                 460

Glu Cys Leu Ser Asn Pro Cys Gln Asn Asp Ala Thr Cys Leu Asp Gln
465                 470                 475                 480

Ile Gly Glu Phe Gln Cys Ile Cys Met Pro Gly Tyr Glu Gly Val Tyr
                485                 490                 495

Cys Glu Ile Asn Thr Asp Glu Cys Ala Ser Ser Pro Cys Leu His Asn
            500                 505                 510

Gly Asn Cys Leu Asp Lys Ile Asn Glu Phe His Cys Glu Cys Pro Thr
        515                 520                 525

Gly Phe Asn Gly His Leu Cys Gln Phe Asp Ile Asp Glu Cys Ala Ser
    530                 535                 540

Thr Pro Cys Lys Asn Gly Ala Lys Cys Val Asp Gly Pro Asn Thr Tyr
545                 550                 555                 560
```

```
Ser Cys Glu Cys Thr Glu Gly Phe Ser Gly Val His Cys Glu Ile Asp
                565                 570                 575

Ile Asp Glu Cys Asn Pro Asp Pro Cys His Tyr Gly Thr Cys Lys Asp
            580                 585                 590

Ser Ile Ala Ala Phe Thr Cys Leu Cys Gln Pro Gly Tyr Thr Gly His
        595                 600                 605

Arg Cys Asp Ile Asn Ile Asn Glu Cys Gln Ser Gln Pro Cys Arg Asn
    610                 615                 620

Gly Gly Thr Cys Gln Asp Arg Asp Asn Ala Tyr Asn Cys Leu Cys Leu
625                 630                 635                 640

Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile Asn Leu Asp Asp Cys Ala
                645                 650                 655

Ser Asn Pro Cys Asp Tyr Gly Lys Cys Ile Asp Lys Ile Asn Gly Tyr
            660                 665                 670

Glu Cys Thr Cys Glu Pro Gly Tyr Thr Gly Arg Met Cys Asn Ile Asn
        675                 680                 685

Ile Asp Glu Cys Ala Ser Asn Pro Cys His Asn Gly Gly Thr Cys Lys
    690                 695                 700

Asp Gly Ile Asn Gly Phe Thr Cys Leu Cys Pro Glu Gly Phe His Asp
705                 710                 715                 720

Pro Lys Cys Leu Ser Glu Val Asn Glu Cys Asn Ser Asn Pro Cys Ile
                725                 730                 735

His Gly Arg Cys His Asp Gly Leu Asn Gly Tyr Arg Cys Asp Cys Asp
            740                 745                 750
```

```
Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile Asn Asn Asn Glu Cys Glu
        755                 760                 765

Ser Asn Pro Cys Met Asn Gly Gly Thr Cys Lys Asp Met Thr Ser Gly
    770                 775                 780

Tyr Ile Cys Thr Cys Arg Glu Gly Phe Ser Gly Pro Asn Cys Gln Thr
785                 790                 795                 800

Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys
                805                 810                 815

Ile Asp Asp Val Ala Gly Tyr Thr Cys Asn Cys Leu Leu Pro Tyr Thr
            820                 825                 830

Gly Ala Thr Cys Glu Asp Val Leu Ala Pro Cys Ala Gly Gly Pro Cys
        835                 840                 845

Lys Asn Gly Gly Glu Cys Arg Glu Ser Glu Asp Tyr Lys Arg Phe Ser
    850                 855                 860

Cys Ser Cys Pro Pro Gly Trp Gln Gly Gln Thr Cys Glu Ile Asp Ile
865                 870                 875                 880

Asn Glu Cys Val Lys Ser Pro Cys Arg Asn Gly Ala Thr Cys Gln Asn
                885                 890                 895

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

Asn Cys Asp Thr Asp Ile Asp Asp Cys Gln Pro Asn Pro Cys His Asn
        915                 920                 925

Gly Gly Ser Cys Ser Asp Gly Ile Gly Thr Phe Phe Cys Glu Cys Leu
    930                 935                 940
```

```
Ala Gly Phe Arg Gly Leu Lys Cys Glu Glu Asp Ile Asn Glu Cys Ala
945                 950                 955                 960


Ser Asn Pro Cys Lys Asn Gly Ala Asn Cys Thr Asp Cys Val Asn Ser
                965                 970                 975


Tyr Thr Cys Thr Cys Pro Ser Gly Phe Ser Gly Ile His Cys Glu Asn
            980                 985                 990


Asn Thr Pro Asp Cys Thr Glu Ser  Ser Cys Phe Asn Gly  Gly Thr Cys
        995                 1000                1005


Val Asp  Gly Ile Asn Thr Phe  Thr Cys Leu Cys Pro  Ser Gly Phe
    1010                1015                1020


Thr Gly  Ser Tyr Cys Glu His  Asn Ile Asn Glu Cys  Asp Ser Lys
    1025                1030                1035


Pro Cys  Leu Asn Gly Gly Thr  Cys Gln Asp Ser Tyr  Gly Thr Tyr
    1040                1045                1050


Lys Cys  Thr Cys Pro Gln Gly  Tyr Thr Gly Leu Asn  Cys Gln Asn
    1055                1060                1065


Leu Val  Arg Trp Cys Asp Ser  Ser Pro Cys Lys Asn  Gly Gly Lys
    1070                1075                1080


Cys Trp  Gln Thr Asn Asn Leu  Tyr Arg Cys Glu Cys  Asn Ser Gly
    1085                1090                1095


Trp Thr  Gly Leu Tyr Cys Asp  Val Pro Ser Val Ser  Cys Glu Val
    1100                1105                1110


Ala Ala  Lys Gln Gln Gly Ile  Asp Val Ala His Leu  Cys Arg Asn
    1115                1120                1125
```

```
Ser Gly  Leu Cys Val Asp Ser  Gly Asn Thr His Phe  Cys Arg Cys
    1130                1135                1140


Gln Ala  Gly Tyr Thr Gly Ser  Tyr Cys Glu Glu Gln  Val Asp Glu
    1145                1150                1155


Cys Ser  Pro Asn Pro Cys Gln  Asn Gly Ala Thr Cys  Thr Asp Tyr
    1160                1165                1170


Leu Gly  Gly Tyr Ser Cys Glu  Cys Val Ala Gly Tyr  His Gly Val
    1175                1180                1185


Asn Cys  Ser Glu Glu Ile Asn  Glu Cys Leu Ser His  Pro Cys Gln
    1190                1195                1200


Asn Gly  Gly Thr Cys Ile Asp  Leu Ile Asn Thr Tyr  Lys Cys Ser
    1205                1210                1215


Cys Pro  Arg Gly Thr Gln Gly  Val His Cys Glu Ile  Asn Val Asp
    1220                1225                1230


Asp Cys  Ser Pro Phe Phe Asp  Pro Val Thr Leu Gly  Pro Lys Cys
    1235                1240                1245


Phe Asn  Asn Gly Lys Cys Thr  Asp Arg Val Gly Gly  Tyr Ser Cys
    1250                1255                1260


Ile Cys  Pro Pro Gly Phe Val  Gly Glu Arg Cys Glu  Gly Asp Val
    1265                1270                1275


Asn Glu  Cys Leu Ser Asn Pro  Cys Asp Ala Arg Gly  Thr Gln Asn
    1280                1285                1290


Cys Val  Gln Arg Val Asn Asp  Tyr Lys Cys Glu Cys  Arg Pro Gly
    1295                1300                1305
```

```
Tyr Ala  Gly Arg Arg Cys Asp  Thr Val Val Asp Gly  Cys Lys Gly
    1310                 1315                 1320

Lys Pro  Cys Arg Asn Gly Gly  Thr Cys Ala Val Ala  Ser Asn Thr
    1325                 1330                 1335

Gly Arg  Gly Phe Ile Cys Lys  Cys Pro Pro Gly Phe  Val Gly Ala
    1340                 1345                 1350

Thr Cys  Glu Asn Asp Ser His  Thr Cys Gly Thr Leu  His Cys Leu
    1355                 1360                 1365

Asn Gly  Gly Thr Cys Ile Ser  Met His Lys Ser Ser  Lys Cys Val
    1370                 1375                 1380

Cys Ala  Ala Ala Phe Thr Gly  Pro Glu Cys Gln Tyr  Pro Ala Ser
    1385                 1390                 1395

Ser Pro  Cys Ile Ser Asn Pro  Cys Tyr Asn Gly Gly  Thr Cys Glu
    1400                 1405                 1410

Phe Leu  Ser Asp Ala Ser Pro  Tyr Tyr His Cys Asn  Cys Pro Ala
    1415                 1420                 1425

Asn Phe  Asn Gly Leu Asn Cys  His Ile Leu Asp Phe  Asp Phe Gln
    1430                 1435                 1440

Gly Gly  Phe Gly Gln Asp Ile  Ile Pro Pro Lys Ile  Glu Glu Lys
    1445                 1450                 1455

Cys Glu  Ile Ala Val Cys Ala  Ser Tyr Ala Gly Asn  Lys Ile Cys
    1460                 1465                 1470

Asp Gly  Lys Cys Asn Asn His  Ala Cys Gly Trp Asp  Gly Gly Asp
    1475                 1480                 1485
```

```
Cys Ser  Leu Asn Phe Asn Asp  Pro Trp Lys Asn Cys  Ser Gln Ser
    1490                 1495                 1500

Leu Gln  Cys Trp Lys Tyr Phe  Asn Asp Gly Lys Cys  Asp Ser Gln
    1505                 1510                 1515

Cys Asn  Asn Ala Gly Cys Leu  Tyr Asp Gly Phe Asp  Cys Gln Lys
    1520                 1525                 1530

Tyr Glu  Gly Gln Cys Asn Pro  Leu Tyr Asp Gln Tyr  Cys Lys Asp
    1535                 1540                 1545

His Phe  Ser Asp Gly His Cys  Asp Gln Gly Cys Asn  Asn Phe Glu
    1550                 1555                 1560

Cys Glu  Trp Asp Gly Leu Asp  Cys Ala Asn Asn Met  Pro Glu Lys
    1565                 1570                 1575

Leu Ala  Asp Gly Thr Leu Val  Val Val Val Leu Ile  Thr Pro Glu
    1580                 1585                 1590

Asn Leu  Lys Asn Asn Ser Phe  Asn Phe Leu Arg Glu  Leu Ser Arg
    1595                 1600                 1605

Val Leu  His Thr Asn Val Val  Phe Lys Lys Asn Ala  Lys Gly Glu
    1610                 1615                 1620

Tyr Met  Ile Phe Pro Tyr Tyr  Gly Asn Glu Glu Glu  Leu Lys Lys
    1625                 1630                 1635

His Tyr  Ile Lys Arg Ser Thr  Glu Asp Trp Ala Asp  Met Ser Ser
    1640                 1645                 1650

Ala Val  Ile Asn Lys Val Lys  Ser Ser Leu Tyr Ser  Arg Ala Gly
    1655                 1660                 1665
```

```
Arg Arg  Gln Lys Arg Glu Leu  Asp Gln Met Asp Ile  Arg Gly Ser
    1670                1675                1680

Ile Val  Tyr Leu Glu Ile Asp  Asn Arg Gln Cys Ile  Gln Ser Ser
    1685                1690                1695

Ser Gln  Cys Phe Gln Ser Ala  Thr Asp Val Ala Ala  Phe Leu Gly
    1700                1705                1710

Ala Leu  Ala Ser Leu Gly Asn  Leu Asn Ile Pro Tyr  Lys Ile Glu
    1715                1720                1725

Ala Val  Lys Ser Glu Thr Ala  Glu Pro Ala Arg Asn  Ser Gln Leu
    1730                1735                1740

Tyr Pro  Met Tyr Val Val Val  Ala Ala Leu Val Leu  Leu Ala Phe
    1745                1750                1755

Ile Gly  Val Gly Val Leu Val  Ser Arg Lys Arg Arg  Arg Glu His
    1760                1765                1770

Gly Gln  Leu Trp Phe Pro Glu  Gly Phe Lys Val Thr  Glu Ser Ser
    1775                1780                1785

Lys Lys  Lys Arg Arg Glu Pro  Leu Gly Glu Asp Ser  Val Gly Leu
    1790                1795                1800

Lys Pro  Leu Lys Asn Ala Ser  Asp Gly Thr Leu Met  Asp Asp Asn
    1805                1810                1815

Gln Asn  Glu Trp Gly Asp Glu  Glu Thr Leu Asp Thr  Lys Lys Phe
    1820                1825                1830

Arg Phe  Glu Glu Gln Ala Met  Leu Pro Asp Thr Asp  Asp Gln Thr
    1835                1840                1845
```

```
Asp His  Arg Gln Trp Thr Gln  Gln His Leu Asp Ala  Ala Asp Leu
    1850                1855                1860

Arg Ile  Ser Ser Met Ala Pro  Thr Pro Pro Gln Gly  Glu Ile Asp
    1865                1870                1875

Ala Asp  Cys Met Asp Val Asn  Val Arg Gly Pro Asp  Gly Phe Thr
    1880                1885                1890

Pro Leu  Met Ile Ala Ser Cys  Ser Gly Gly Gly Leu  Glu Thr Gly
    1895                1900                1905

Asn Ser  Glu Glu Glu Asp Asp  Ala Pro Ala Val Ile  Ser Asp Phe
    1910                1915                1920

Ile Tyr  Gln Gly Ala Ser Leu  His Asn Gln Thr Asp  Arg Thr Gly
    1925                1930                1935

Glu Thr  Ala Leu His Leu Ala  Ala Arg Tyr Ser Arg  Ser Asp Ala
    1940                1945                1950

Ala Lys  Arg Leu Leu Glu Ala  Ser Ala Asp Ala Asn  Ile Gln Asp
    1955                1960                1965

Asn Met  Gly Arg Thr Pro Leu  His Ala Ala Val Ser  Ala Asp Ala
    1970                1975                1980

Gln Gly  Val Phe Gln Ile Leu  Ile Arg Asn Arg Ala  Thr Asp Leu
    1985                1990                1995

Asp Ala  Arg Met His Asp Gly  Thr Thr Pro Leu Ile  Leu Ala Ala
    2000                2005                2010

Arg Leu  Ala Val Glu Gly Met  Leu Glu Asp Leu Ile  Asn Cys His
    2015                2020                2025
```

```
Ala Asp  Val Asn Ala Val Asp  Asp Leu Gly Lys Ser  Ala Leu His
    2030                2035                2040

Trp Ala  Ala Ala Val Asn Asn  Val Glu Ala Ala Val  Val Leu Leu
    2045                2050                2055

Lys Asn  Gly Ala Asn Lys Asp  Met Gln Asn Asn Lys  Glu Glu Thr
    2060                2065                2070

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

Val Leu  Leu Asp His Phe Ala  Asn Arg Asp Ile Thr  Asp His Met
    2090                2095                2100

Asp Arg  Leu Pro Arg Asp Ile  Ala Gln Glu Arg Met  His His Asp
    2105                2110                2115

Ile Val  Arg Leu Leu Asp Glu  Tyr Asn Leu Val Arg  Ser Pro Pro
    2120                2125                2130

Leu His  Ser Gly Pro Leu Gly  Ala Pro Thr Leu Ser  Pro Pro Leu
    2135                2140                2145

Cys Ser  Pro Ser Ser Tyr Ile  Gly Asn Leu Lys Pro  Ala Val Gln
    2150                2155                2160

Gly Lys  Lys Ala Arg Lys Pro  Ser Thr Lys Gly Leu  Ser Cys Asn
    2165                2170                2175

Gly Lys  Asp Ser Lys Asp Leu  Lys Ala Arg Arg Lys  Lys Ser Gln
    2180                2185                2190

Asp Gly  Lys Gly Cys Leu Leu  Asp Asn Ser Ser Val  Leu Ser Pro
    2195                2200                2205
```

```
Val Asp  Ser Leu Glu Ser Pro  His Gly Tyr Leu Ser  Asp Val Ala
    2210                 2215                 2220


Ser Pro  Pro Leu Met Thr Ser  Pro Phe Gln Gln Ser  Pro Ser Met
    2225                 2230                 2235


Pro Leu  Asn His Leu Pro Gly  Met Pro Asp Ala His  Met Ser Ile
    2240                 2245                 2250


Asn His  Leu Asn Met Ala Gly  Lys Gln Glu Met Ala  Leu Gly Gly
    2255                 2260                 2265


Ser Gly  Arg Met Ala Phe Glu  Ala Val Pro Pro Arg  Leu Ser His
    2270                 2275                 2280


Leu Pro  Val Ser Ser Pro Ser  Thr Ala Met Ser Asn  Ala Pro Met
    2285                 2290                 2295


Asn Phe  Ser Val Gly Gly Ala  Ala Gly Leu Ser Gly  Gln Cys Asp
    2300                 2305                 2310


Trp Leu  Ser Arg Leu Gln Ser  Gly Met Val Gln Asn  Gln Tyr Gly
    2315                 2320                 2325


Ala Met  Arg Gly Gly Met Gln  Pro Gly Thr His Gln  Gln Ala Gln
    2330                 2335                 2340


Asn Leu  Gln His Gly Met Met  Ser Ser Leu His Asn  Gly Leu Pro
    2345                 2350                 2355


Ser Thr  Ser Leu Ser Gln Met  Met Ser Tyr Gln Ala  Met Pro Ser
    2360                 2365                 2370


Thr Arg  Leu Ala Ser Gln Pro  His Leu Leu Gln Asn  Gln Gln Met
    2375                 2380                 2385
```

```
Gln Gln  Met Gln Gln Pro Gly  Met Gln Pro Gln Pro  Gly Met Gln
    2390                 2395                 2400

Pro Gln  Pro Gly Met Gln Gln  Pro Gln Gln Gln Pro  Gln Gln Gln
    2405                 2410                 2415

Pro Gln  Pro Gln Gln His His  Asn Pro Gly Ser Asn  Ala Ser Gly
    2420                 2425                 2430

His Met  Gly Gln Asn Phe Leu  Gly Thr Glu Leu Ser  Gln Pro Asp
    2435                 2440                 2445

Met Gln  Pro Val Ser Ser Ser  Ala Met Ala Val His  Thr Ile Leu
    2450                 2455                 2460

Pro Gln  Asp Ser Gln Leu Leu  Pro Thr Ser Leu Pro  Ser Ser Leu
    2465                 2470                 2475

Ala Gln  Pro Met Thr Thr Thr  Gln Phe Leu Thr Pro  Pro Ser Gln
    2480                 2485                 2490

His Ser  Tyr Ser Ser Pro Leu  Asp Asn Thr Pro Ser  His Gln Leu
    2495                 2500                 2505

Gln Val  Pro Asp His Pro Phe  Leu Thr Pro Ser Pro  Glu Ser Pro
    2510                 2515                 2520

Asp Gln  Trp Ser Ser Ser Ser  Pro His Ser Asn Val  Ser Asp Trp
    2525                 2530                 2535

Ser Glu  Gly Ile Ser Ser Pro  Pro Thr Ser Met Gln  Ser Gln Met
    2540                 2545                 2550

Gly His  Ile Pro Glu Ala Phe  Lys
    2555                 2560
```

<210> 7
<211> 2531
<212> PRT
<213> Rattus rattus

<400> 7

```
Met Pro Arg Leu Leu Ala Pro Leu Leu Cys Leu Thr Leu Leu Pro Ala
1               5                  10                  15


Leu Ala Ala Arg Gly Leu Arg Cys Ser Gln Pro Ser Gly Thr Cys Leu
            20                  25                  30


Asn Gly Gly Arg Cys Glu Val Ala Asn Gly Thr Glu Ala Cys Val Cys
        35                  40                  45


Ser Gly Ala Phe Val Gly Gln Arg Cys Gln Asp Pro Ser Pro Cys Leu
    50                  55                  60


Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys Tyr Val Val Asp His Gly
65                  70                  75                  80


Gly Ile Val Asp Tyr Ala Cys Ser Cys Pro Leu Gly Phe Ser Gly Pro
                85                  90                  95


Leu Cys Leu Thr Pro Leu Ala Asn Ala Cys Leu Ala Asn Pro Cys Arg
            100                 105                 110


Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
        115                 120                 125


Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
    130                 135                 140


Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ser
145                 150                 155                 160


Ser Tyr Ile Cys Gly Cys Pro Pro Gly Phe His Gly Pro Thr Cys Arg
```

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                165                 170                 175

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

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

Thr His Thr Gly Pro His Cys Glu Leu Pro Tyr Val Pro Cys Ser Pro
    210                 215                 220

Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Thr Thr
225                 230                 235                 240

His Glu Cys Ala Cys Leu Pro Gly Phe Ala Gly Gln Asn Cys Glu Glu
                245                 250                 255

Asn Val Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
            260                 265                 270

Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro Glu Trp Thr
        275                 280                 285

Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
    290                 295                 300

Ala Cys Gln Asn Ala Gly Thr Cys His Asn Ser His Gly Gly Tyr Asn
305                 310                 315                 320

Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Asp Asn Ile
                325                 330                 335

Asp Asp Cys Ala Ser Ala Ala Cys Phe Gln Gly Ala Thr Cys His Asp
            340                 345                 350

Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
```

```
        355                 360                 365

Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
    370                 375                 380

Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
385                 390                 395                 400

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

Ala Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Leu Asn Thr
            420                 425                 430

Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
        435                 440                 445

Cys Glu Ile Asp Val Asn Glu Cys Ile Ser Asn Pro Cys Gln Asn Asp
    450                 455                 460

Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Ile Cys Met Pro
465                 470                 475                 480

Gly Tyr Glu Gly Val Tyr Cys Glu Ile Asn Thr Asp Glu Cys Ala Ser
                485                 490                 495

Ser Pro Cys Leu His Asn Gly Arg Cys Val Asp Lys Ile Asn Glu Phe
            500                 505                 510

Leu Cys Gln Cys Pro Lys Gly Phe Ser Gly His Leu Cys Gln Tyr Asp
        515                 520                 525

Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
    530                 535                 540

Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
```

```
545                 550                 555                 560

Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
                565                 570                 575

Ile Gly Leu Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Gln
            580                 585                 590

Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys His
        595                 600                 605

Ser Gln Pro Cys Arg His Gly Gly Thr Cys Gln Asp Arg Asp Asn Tyr
    610                 615                 620

Tyr Leu Cys Leu Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
625                 630                 635                 640

Asn Leu Asp Asp Cys Ala Ser Asn Pro Cys Asp Ser Gly Thr Cys Leu
                645                 650                 655

Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
            660                 665                 670

Ser Met Cys Asn Val Asn Ile Asp Glu Cys Ala Gly Ser Pro Cys His
        675                 680                 685

Asn Gly Gly Thr Cys Glu Asp Gly Ile Ala Gly Phe Thr Cys Arg Cys
    690                 695                 700

Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
705                 710                 715                 720

Asn Ser Asn Pro Cys Ile His Gly Ala Cys Arg Asp Gly Leu Asn Gly
                725                 730                 735

Tyr Lys Cys Asp Cys Ala Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
```

```
            740                 745                 750

Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
        755                 760                 765

Lys Asp Met Thr Ser Gly Tyr Val Cys Thr Cys Arg Glu Gly Phe Ser
    770                 775                 780

Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
785                 790                 795                 800

Leu Asn Gln Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
                805                 810                 815

Cys Pro Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
            820                 825                 830

Cys Ala Thr Ser Pro Cys Lys Asn Ser Gly Val Cys Lys Glu Ser Glu
        835                 840                 845

Asp Tyr Glu Ser Phe Ser Cys Val Cys Pro Thr Gly Trp Gln Gly Gln
    850                 855                 860

Thr Cys Glu Ile Asp Ile Asn Glu Cys Val Lys Ser Pro Cys Arg His
865                 870                 875                 880

Gly Ala Ser Cys Gln Asn Thr Asn Gly Ser Tyr Arg Cys Leu Cys Gln
                885                 890                 895

Ala Gly Tyr Thr Gly Arg Asn Cys Glu Ser Asp Ile Asp Asp Cys Arg
            900                 905                 910

Pro Asn Pro Cys His Asn Gly Gly Ser Cys Thr Asp Gly Val Asn Ala
        915                 920                 925

Ala Phe Cys Asp Cys Leu Pro Gly Phe Gln Gly Ala Phe Cys Glu Glu
```

```
    930                 935                 940

Asp Ile Asn Glu Cys Ala Thr Asn Pro Cys Gln Asn Gly Ala Asn Cys
945                 950                 955                 960

Thr Asp Cys Val Asp Ser Tyr Thr Cys Thr Cys Pro Thr Gly Phe Asn
                965                 970                 975

Gly Ile His Cys Glu Asn Asn Thr Pro Asp Cys Thr Glu Ser Ser Cys
            980                 985                 990

Phe Asn Gly Gly Thr Cys Val Asp  Gly Ile Asn Ser Phe  Thr Cys Leu
        995                 1000                1005

Cys Pro  Pro Gly Phe Thr Gly  Ser Tyr Cys Gln Tyr  Asp Val Asn
    1010                1015                1020

Glu Cys  Asp Ser Arg Pro Cys  Leu His Gly Gly Thr  Cys Gln Asp
    1025                1030                1035

Ser Tyr  Gly Thr Tyr Lys Cys  Thr Cys Pro Gln Gly  Tyr Thr Gly
    1040                1045                1050

Leu Asn  Cys Gln Asn Leu Val  Arg Trp Cys Asp Ser  Ala Pro Cys
    1055                1060                1065

Lys Asn  Gly Gly Lys Cys Trp  Gln Thr Asn Thr Gln  Tyr His Cys
    1070                1075                1080

Glu Cys  Arg Ser Gly Trp Thr  Gly Phe Asn Cys Asp  Val Leu Ser
    1085                1090                1095

Val Ser  Cys Glu Val Ala Ala  Gln Lys Arg Gly Ile  Asp Val Thr
    1100                1105                1110

Leu Leu  Cys Gln His Gly Gly  Leu Cys Val Asp Glu  Glu Asp Lys
```

```
    1115                1120                1125

His Tyr  Cys His Cys Gln Ala  Gly Tyr Thr Gly Ser  Tyr Cys Glu
    1130                1135                1140

Asp Glu  Val Asp Glu Cys Ser  Pro Asn Pro Cys Gln  Asn Gly Ala
    1145                1150                1155

Thr Cys  Thr Asp Tyr Leu Gly  Gly Phe Ser Cys Lys  Cys Val Ala
    1160                1165                1170

Gly Tyr  His Gly Ser Asn Cys  Ser Glu Glu Ile Asn  Glu Cys Leu
    1175                1180                1185

Ser Gln  Pro Cys Gln Asn Gly  Gly Thr Cys Ile Asp  Leu Thr Asn
    1190                1195                1200

Thr Tyr  Lys Cys Ser Cys Pro  Arg Gly Thr Gln Gly  Val His Cys
    1205                1210                1215

Glu Ile  Asn Val Asp Asp Cys  His Pro Pro Leu Asp  Pro Ala Ser
    1220                1225                1230

Arg Ser  Pro Lys Cys Phe Asn  Asn Gly Thr Cys Val  Asp Gln Val
    1235                1240                1245

Gly Gly  Tyr Thr Cys Thr Cys  Pro Pro Gly Phe Val  Gly Glu Arg
    1250                1255                1260

Cys Glu  Gly Asp Val Asn Glu  Cys Leu Ser Asn Pro  Cys Asp Pro
    1265                1270                1275

Arg Gly  Thr Gln Asn Cys Val  Gln Arg Val Asn Asp  Phe His Cys
    1280                1285                1290

Glu Cys  Arg Ala Gly His Thr  Gly Arg Arg Cys Glu  Ser Val Ile
```

```
    1295                1300                1305

Asn Gly  Cys Arg Gly Lys Pro  Cys Arg Asn Gly Gly  Val Cys Ala
    1310                1315                1320

Val Ala  Ser Asn Thr Ala Arg  Gly Phe Ile Cys Arg  Cys Pro Ala
    1325                1330                1335

Arg Phe  Glu Gly Ala Thr Cys  Glu Asn Asp Ala Arg  Thr Cys Gly
    1340                1345                1350

Ser Leu  Arg Cys Leu Asn Gly  Gly Thr Cys Ile Ser  Gly Pro Arg
    1355                1360                1365

Ser Pro  Thr Cys Leu Cys Leu  Gly Ser Phe Thr Gly  Pro Glu Cys
    1370                1375                1380

Gln Phe  Pro Ala Ser Ser Pro  Cys Val Gly Ser Asn  Pro Cys Tyr
    1385                1390                1395

Asn Gln  Gly Thr Cys Glu Pro  Thr Ser Glu Ser Pro  Phe Tyr Arg
    1400                1405                1410

Cys Leu  Cys Pro Ala Lys Phe  Asn Gly Leu Leu Cys  His Ile Leu
    1415                1420                1425

Asp Tyr  Ser Phe Thr Gly Ala  Ala Gly Arg Asp Ile  Pro Pro Pro
    1430                1435                1440

Gln Ile  Glu Glu Ala Cys Glu  Leu Pro Glu Cys Gln  Glu Asp Ala
    1445                1450                1455

Gly Asn  Lys Val Cys Asn Leu  Gln Cys Asn Asn His  Ala Cys Gly
    1460                1465                1470

Trp Asp  Gly Gly Asp Cys Ser  Leu Asn Phe Asn Asp  Pro Trp Lys
```

```
    1475                1480                1485

Asn Cys  Thr Gln Ser Leu Gln  Cys Trp Lys Tyr Phe  Ser Asp Gly
    1490                1495                1500

His Cys  Asp Ser Gln Cys Asn  Ser Ala Gly Cys Leu  Phe Asp Gly
    1505                1510                1515

Phe Asp  Cys Gln Leu Thr Glu  Gly Gln Cys Asn Pro  Leu Tyr Asp
    1520                1525                1530

Gln Tyr  Cys Lys Asp His Phe  Ser Asp Gly His Cys  Asp Gln Gly
    1535                1540                1545

Cys Asn  Ser Ala Glu Cys Glu  Trp Asp Gly Leu Asp  Cys Ala Glu
    1550                1555                1560

His Val  Pro Glu Arg Leu Ala  Ala Gly Thr Leu Val  Leu Val Val
    1565                1570                1575

Leu Leu  Pro Pro Asp Gln Leu  Arg Asn Asn Ser Phe  His Phe Leu
    1580                1585                1590

Arg Asp  Val Ser His Val Leu  His Thr Asn Val Val  Phe Lys Arg
    1595                1600                1605

Asp Ala  Gln Gly Gln Gln Met  Ile Phe Pro Tyr Tyr  Gly Arg Glu
    1610                1615                1620

Glu Glu  Leu Arg Lys His Pro  Ile Lys Arg Ser Ala  Val Gly Trp
    1625                1630                1635

Ala Thr  Thr Ser Leu Leu Pro  Gly Thr Asn Gly Gly  Arg Gln Arg
    1640                1645                1650

Arg Glu  Leu Asp Pro Met Asp  Ile His Gly Ser Ile  Val Tyr Leu
```

```
    1655                1660                1665

Glu Ile  Asp Asn Arg Gln Cys  Val Gln Ser Ser Ser  Gln Cys Phe
    1670                1675                1680

Gln Ser  Ala Thr Asp Val Ala  Ala Phe Leu Gly Ala  Leu Ala Ser
    1685                1690                1695

Leu Gly  Ser Leu Asn Ile Pro  Tyr Lys Ile Glu Ala  Val Lys Ser
    1700                1705                1710

Glu Thr  Val Glu Pro Pro Leu  Pro Ser Gln Leu His  Leu Met Tyr
    1715                1720                1725

Val Ala  Ala Ala Ala Phe Val  Leu Leu Phe Phe Val  Gly Cys Gly
    1730                1735                1740

Val Leu  Leu Ser Arg Lys Arg  Arg Arg Gln His Gly  Gln Leu Trp
    1745                1750                1755

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

Arg Glu  Pro Leu Gly Glu Asp  Ser Val Gly Leu Lys  Pro Leu Lys
    1775                1780                1785

Asn Ala  Ser Asp Gly Ala Leu  Met Asp Asp Asn Gln  Asn Glu Trp
    1790                1795                1800

Gly Asp  Glu Asp Leu Glu Thr  Lys Lys Phe Arg Phe  Glu Glu Pro
    1805                1810                1815

Val Val  Leu Pro Asp Leu Asp  Asp Gln Thr Asp His  Arg Gln Trp
    1820                1825                1830

Thr Gln  Gln His Leu Asp Ala  Ala Asp Leu Arg Val  Ser Ala Met
```

1835 1840 1845

Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys Met Asp
1850 1855 1860

Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala
1865 1870 1875

Ser Cys Ser Gly Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu
1880 1885 1890

Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala
1895 1900 1905

Ser Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His
1910 1915 1920

Leu Ala Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu
1925 1930 1935

Glu Ala Ser Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr
1940 1945 1950

Pro Leu His Ala Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln
1955 1960 1965

Ile Leu Leu Arg Asn Arg Ala Thr Asp Leu Asp Ala Arg Met His
1970 1975 1980

Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu
1985 1990 1995

Gly Met Leu Glu Asp Leu Ile Asn Ser His Ala Asp Val Asn Ala
2000 2005 2010

Val Asp Asp Leu Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val

```
    2015                2020                2025

Asn Asn  Val Asp Ala Ala Val  Val Leu Leu Lys Asn  Gly Ala Asn
    2030                2035                2040

Lys Asp  Met Gln Asn Asn Lys  Glu Glu Thr Pro Leu  Phe Leu Ala
    2045                2050                2055

Ala Arg  Glu Gly Ser Tyr Glu  Thr Ala Lys Val Leu  Leu Asp His
    2060                2065                2070

Phe Ala  Asn Arg Asp Ile Thr  Asp His Met Asp Arg  Leu Pro Arg
    2075                2080                2085

Asp Ile  Ala Gln Glu Arg Met  His His Asp Ile Val  Arg Leu Leu
    2090                2095                2100

Asp Glu  Tyr Asn Leu Val Arg  Ser Pro Gln Leu His  Gly Thr Ala
    2105                2110                2115

Leu Gly  Gly Thr Pro Thr Leu  Ser Pro Thr Leu Cys  Ser Pro Asn
    2120                2125                2130

Gly Tyr  Leu Gly Asn Leu Lys  Ser Ala Thr Gln Gly  Lys Lys Ala
    2135                2140                2145

Arg Lys  Pro Ser Thr Lys Gly  Leu Ala Cys Ser Ser  Lys Glu Ala
    2150                2155                2160

Lys Asp  Leu Lys Ala Arg Arg  Lys Lys Ser Gln Asp  Gly Lys Gly
    2165                2170                2175

Cys Leu  Leu Asp Ser Ser Ser  Met Leu Ser Pro Val  Asp Ser Leu
    2180                2185                2190

Glu Ser  Pro His Gly Tyr Leu  Ser Asp Val Ala Ser  Pro Pro Leu
```

2195 2200 2205

Leu Pro Ser Pro Phe Gln Gln Ser Pro Ser Met Pro Leu Ser His
2210 2215 2220

Leu Pro Gly Met Pro Asp Thr His Leu Gly Ile Ser His Leu Asn
2225 2230 2235

Val Ala Ala Lys Pro Glu Met Ala Ala Leu Ala Gly Gly Ser Arg
2240 2245 2250

Leu Ala Phe Glu Pro Pro Pro Pro Arg Leu Ser His Leu Pro Val
2255 2260 2265

Ala Ser Ser Ala Ser Thr Val Leu Ser Thr Asn Gly Thr Gly Ala
2270 2275 2280

Met Asn Phe Thr Val Gly Ala Pro Ala Ser Leu Asn Gly Gln Cys
2285 2290 2295

Glu Trp Leu Pro Arg Leu Gln Asn Gly Met Val Pro Ser Gln Tyr
2300 2305 2310

Asn Pro Leu Arg Pro Gly Val Thr Pro Gly Thr Leu Ser Thr Gln
2315 2320 2325

Ala Ala Gly Leu Gln His Gly Met Met Gly Pro Ile His Ser Ser
2330 2335 2340

Leu Ser Thr Asn Thr Leu Ser Pro Ile Ile Tyr Gln Gly Leu Pro
2345 2350 2355

Asn Thr Arg Leu Ala Thr Gln Pro His Leu Val Gln Thr Gln Gln
2360 2365 2370

Val Gln Pro Gln Asn Leu Gln Ile Gln Pro Gln Asn Leu Gln Pro

```
    2375                2380                2385

Pro Ser  Gln Pro His Leu Ser  Val Ser Ser Ala Ala  Asn Gly His
    2390                2395                2400

Leu Gly  Arg Ser Phe Leu Ser  Gly Glu Pro Ser Gln  Ala Asp Val
    2405                2410                2415

Gln Pro  Leu Gly Pro Ser Ser  Leu Pro Val His Thr  Ile Leu Pro
    2420                2425                2430

Gln Glu  Ser Gln Ala Leu Pro  Thr Ser Leu Pro Ser  Ser Met Val
    2435                2440                2445

Pro Pro  Met Thr Thr Thr Gln  Phe Leu Thr Pro Pro  Ser Gln His
    2450                2455                2460

Ser Tyr  Ser Ser Ser Pro Val  Asp Asn Thr Pro Ser  His Gln Leu
    2465                2470                2475

Gln Val  Pro Glu His Pro Phe  Leu Thr Pro Ser Pro  Glu Ser Pro
    2480                2485                2490

Asp Gln  Trp Ser Ser Ser Ser  Arg His Ser Asn Ile  Ser Asp Trp
    2495                2500                2505

Ser Glu  Gly Ile Ser Ser Pro  Pro Thr Ser Met Pro  Ser Gln Ile
    2510                2515                2520

Thr His  Ile Pro Glu Ala Phe  Lys
    2525                2530
```

<210> 8
<211> 2471
<212> PRT
<213> Homo sapiens

<400> 8

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Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp
1               5                  10                  15

Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
            20                  25                  30

Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
        35                  40                  45

Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
    50                  55                  60

Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65                  70                  75                  80

Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
                85                  90                  95

Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
            100                 105                 110

Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
        115                 120                 125

Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys Gln Trp
    130                 135                 140

Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr Cys Thr
145                 150                 155                 160

Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe Thr Gly
                165                 170                 175

Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys
            180                 185                 190
```

```
Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln Cys Gln
        195                 200                 205

Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr Val Pro
    210                 215                 220

Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
225                 230                 235                 240

Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr
                245                 250                 255

Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln Asn Gly
            260                 265                 270

Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
        275                 280                 285

Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
    290                 295                 300

Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg Asn Gly
305                 310                 315                 320

Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
                325                 330                 335

Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
            340                 345                 350

Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu Gly Lys
        355                 360                 365

Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys
    370                 375                 380
```

```
His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile
385                 390                 395                 400

Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val
                405                 410                 415

Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys
            420                 425                 430

Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr
        435                 440                 445

Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro
    450                 455                 460

Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys
465                 470                 475                 480

Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Ile Asn
                485                 490                 495

Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys
            500                 505                 510

Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val
        515                 520                 525

Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly
    530                 535                 540

Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr
545                 550                 555                 560

Gly Phe Thr Gly Val Leu Cys Glu Glu Asn Ile Asp Asn Cys Asp Pro
                565                 570                 575
```

```
Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr
            580                 585                 590

Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile
        595                 600                 605

Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp
    610                 615                 620

Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Val
625                 630                 635                 640

Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Ile His
                645                 650                 655

Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro
            660                 665                 670

Gly Phe Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser
        675                 680                 685

Asn Pro Cys Arg Lys Gly Ala Thr Cys Ile Asn Gly Val Asn Gly Phe
    690                 695                 700

Arg Cys Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln
705                 710                 715                 720

Val Asn Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys Thr Gly
                725                 730                 735

Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Ile
            740                 745                 750

Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn
        755                 760                 765
```

```
Gly Gly Thr Cys Asp Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys
    770                 775                 780

Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala
785                 790                 795                 800

Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Ile Ser Gly
                805                 810                 815

Tyr Thr Cys His Cys Val Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr
            820                 825                 830

Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys
        835                 840                 845

Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala Pro Gly
    850                 855                 860

Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile Ser Lys
865                 870                 875                 880

Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser Tyr Met
                885                 890                 895

Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
            900                 905                 910

Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Met Asp
        915                 920                 925

Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr Gly Asp
    930                 935                 940

Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
945                 950                 955                 960
```

```
Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln
               965                 970                 975

Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr
           980                 985                 990

Glu Ser Ser Cys Phe Asn Gly Gly  Thr Cys Val Asp Gly  Ile Asn Ser
        995                 1000                1005

Phe Ser  Cys Leu Cys Pro Val  Gly Phe Thr Gly Ser  Phe Cys Leu
    1010                1015                1020

His Glu  Ile Asn Glu Cys Ser  Ser His Pro Cys Leu  Asn Glu Gly
    1025                1030                1035

Thr Cys  Val Asp Gly Leu Gly  Thr Tyr Arg Cys Ser  Cys Pro Leu
    1040                1045                1050

Gly Tyr  Thr Gly Lys Asn Cys  Gln Thr Leu Val Asn  Leu Cys Ser
    1055                1060                1065

Arg Ser  Pro Cys Lys Asn Lys  Gly Thr Cys Val Gln  Lys Lys Ala
    1070                1075                1080

Glu Ser  Gln Cys Leu Cys Pro  Ser Gly Trp Ala Gly  Ala Tyr Cys
    1085                1090                1095

Asp Val  Pro Asn Val Ser Cys  Asp Ile Ala Ala Ser  Arg Arg Gly
    1100                1105                1110

Val Leu  Val Glu His Leu Cys  Gln His Ser Gly Val  Cys Ile Asn
    1115                1120                1125

Ala Gly  Asn Thr His Tyr Cys  Gln Cys Pro Leu Gly  Tyr Thr Gly
    1130                1135                1140
```

```
Ser Tyr  Cys Glu Glu Gln Leu  Asp Glu Cys Ala Ser  Asn Pro Cys
    1145                1150                1155

Gln His  Gly Ala Thr Cys Ser  Asp Phe Ile Gly Gly  Tyr Arg Cys
    1160                1165                1170

Glu Cys  Val Pro Gly Tyr Gln  Gly Val Asn Cys Glu  Tyr Glu Val
    1175                1180                1185

Asp Glu  Cys Gln Asn Gln Pro  Cys Gln Asn Gly Gly  Thr Cys Ile
    1190                1195                1200

Asp Leu  Val Asn His Phe Lys  Cys Ser Cys Pro Pro  Gly Thr Arg
    1205                1210                1215

Gly Leu  Leu Cys Glu Glu Asn  Ile Asp Asp Cys Ala  Arg Gly Pro
    1220                1225                1230

His Cys  Leu Asn Gly Gly Gln  Cys Met Asp Arg Ile  Gly Gly Tyr
    1235                1240                1245

Ser Cys  Arg Cys Leu Pro Gly  Phe Ala Gly Glu Arg  Cys Glu Gly
    1250                1255                1260

Asp Ile  Asn Glu Cys Leu Ser  Asn Pro Cys Ser Ser  Glu Gly Ser
    1265                1270                1275

Leu Asp  Cys Ile Gln Leu Thr  Asn Asp Tyr Leu Cys  Val Cys Arg
    1280                1285                1290

Ser Ala  Phe Thr Gly Arg His  Cys Glu Thr Phe Val  Asp Val Cys
    1295                1300                1305

Pro Gln  Met Pro Cys Leu Asn  Gly Gly Thr Cys Ala  Val Ala Ser
    1310                1315                1320
```

```
Asn Met  Pro Asp Gly Phe Ile  Cys Arg Cys Pro Pro  Gly Phe Ser
    1325                1330                1335

Gly Ala  Arg Cys Gln Ser Ser  Cys Gly Gln Val Lys  Cys Arg Lys
    1340                1345                1350

Gly Glu  Gln Cys Val His Thr  Ala Ser Gly Pro Arg  Cys Phe Cys
    1355                1360                1365

Pro Ser  Pro Arg Asp Cys Glu  Ser Gly Cys Ala Ser  Ser Pro Cys
    1370                1375                1380

Gln His  Gly Gly Ser Cys His  Pro Gln Arg Gln Pro  Pro Tyr Tyr
    1385                1390                1395

Ser Cys  Gln Cys Ala Pro Pro  Phe Ser Gly Ser Arg  Cys Glu Leu
    1400                1405                1410

Tyr Thr  Ala Pro Pro Ser Thr  Pro Pro Ala Thr Cys  Leu Ser Gln
    1415                1420                1425

Tyr Cys  Ala Asp Lys Ala Arg  Asp Gly Val Cys Asp  Glu Ala Cys
    1430                1435                1440

Asn Ser  His Ala Cys Gln Trp  Asp Gly Gly Asp Cys  Ser Leu Thr
    1445                1450                1455

Met Glu  Asn Pro Trp Ala Asn  Cys Ser Ser Pro Leu  Pro Cys Trp
    1460                1465                1470

Asp Tyr  Ile Asn Asn Gln Cys  Asp Glu Leu Cys Asn  Thr Val Glu
    1475                1480                1485

Cys Leu  Phe Asp Asn Phe Glu  Cys Gln Gly Asn Ser  Lys Thr Cys
    1490                1495                1500
```

```
Lys Tyr  Asp Lys Tyr Cys Ala  Asp His Phe Lys Asp  Asn His Cys
    1505                1510                1515

Asp Gln  Gly Cys Asn Ser Glu  Glu Cys Gly Trp Asp  Gly Leu Asp
    1520                1525                1530

Cys Ala  Ala Asp Gln Pro Glu  Asn Leu Ala Glu Gly  Thr Leu Val
    1535                1540                1545

Ile Val  Val Leu Met Pro Pro  Glu Gln Leu Leu Gln  Asp Ala Arg
    1550                1555                1560

Ser Phe  Leu Arg Ala Leu Gly  Thr Leu Leu His Thr  Asn Leu Arg
    1565                1570                1575

Ile Lys  Arg Asp Ser Gln Gly  Glu Leu Met Val Tyr  Pro Tyr Tyr
    1580                1585                1590

Gly Glu  Lys Ser Ala Ala Met  Lys Lys Gln Arg Met  Thr Arg Arg
    1595                1600                1605

Ser Leu  Pro Gly Glu Gln Glu  Gln Glu Val Ala Gly  Ser Lys Val
    1610                1615                1620

Phe Leu  Glu Ile Asp Asn Arg  Gln Cys Val Gln Asp  Ser Asp His
    1625                1630                1635

Cys Phe  Lys Asn Thr Asp Ala  Ala Ala Ala Leu Leu  Ala Ser His
    1640                1645                1650

Ala Ile  Gln Gly Thr Leu Ser  Tyr Pro Leu Val Ser  Val Val Ser
    1655                1660                1665

Glu Ser  Leu Thr Pro Glu Arg  Thr Gln Leu Leu Tyr  Leu Leu Ala
    1670                1675                1680
```

```
Val Ala  Val Val Ile Ile Leu  Phe Ile Ile Leu Leu  Gly Val Ile
    1685                1690                1695

Met Ala  Lys Arg Lys Arg Lys  His Gly Ser Leu Trp  Leu Pro Glu
    1700                1705                1710

Gly Phe  Thr Leu Arg Arg Asp  Ala Ser Asn His Lys  Arg Arg Glu
    1715                1720                1725

Pro Val  Gly Gln Asp Ala Val  Gly Leu Lys Asn Leu  Ser Val Gln
    1730                1735                1740

Val Ser  Glu Ala Asn Leu Ile  Gly Thr Gly Thr Ser  Glu His Trp
    1745                1750                1755

Val Asp  Asp Glu Gly Pro Gln  Pro Lys Lys Val Lys  Ala Glu Asp
    1760                1765                1770

Glu Ala  Leu Leu Ser Glu Glu  Asp Asp Pro Ile Asp  Arg Arg Pro
    1775                1780                1785

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

Ser Leu  Ala Leu Thr Pro Pro  Gln Ala Glu Gln Glu  Val Asp Val
    1805                1810                1815

Leu Asp  Val Asn Val Arg Gly  Pro Asp Gly Cys Thr  Pro Leu Met
    1820                1825                1830

Leu Ala  Ser Leu Arg Gly Gly  Ser Ser Asp Leu Ser  Asp Glu Asp
    1835                1840                1845

Glu Asp  Ala Glu Asp Ser Ser  Ala Asn Ile Ile Thr  Asp Leu Val
    1850                1855                1860
```

```
Tyr Gln  Gly Ala Ser Leu Gln  Ala Gln Thr Asp Arg  Thr Gly Glu
    1865                1870                1875

Met Ala  Leu His Leu Ala Ala  Arg Tyr Ser Arg Ala  Asp Ala Ala
    1880                1885                1890

Lys Arg  Leu Leu Asp Ala Gly  Ala Asp Ala Asn Ala  Gln Asp Asn
    1895                1900                1905

Met Gly  Arg Cys Pro Leu His  Ala Ala Val Ala Ala  Asp Ala Gln
    1910                1915                1920

Gly Val  Phe Gln Ile Leu Ile  Arg Asn Arg Val Thr  Asp Leu Asp
    1925                1930                1935

Ala Arg  Met Asn Asp Gly Thr  Thr Pro Leu Ile Leu  Ala Ala Arg
    1940                1945                1950

Leu Ala  Val Glu Gly Met Val  Ala Glu Leu Ile Asn  Cys Gln Ala
    1955                1960                1965

Asp Val  Asn Ala Val Asp Asp  His Gly Lys Ser Ala  Leu His Trp
    1970                1975                1980

Ala Ala  Ala Val Asn Asn Val  Glu Ala Thr Leu Leu  Leu Leu Lys
    1985                1990                1995

Asn Gly  Ala Asn Arg Asp Met  Gln Asp Asn Lys Glu  Glu Thr Pro
    2000                2005                2010

Leu Phe  Leu Ala Ala Arg Glu  Gly Ser Tyr Glu Ala  Ala Lys Ile
    2015                2020                2025

Leu Leu  Asp His Phe Ala Asn  Arg Asp Ile Thr Asp  His Met Asp
    2030                2035                2040
```

```
Arg Leu  Pro Arg Asp Val Ala  Arg Asp Arg Met His  His Asp Ile
    2045                2050                2055

Val Arg  Leu Leu Asp Glu Tyr  Asn Val Thr Pro Ser  Pro Pro Gly
    2060                2065                2070

Thr Val  Leu Thr Ser Ala Leu  Ser Pro Val Ile Cys  Gly Pro Asn
    2075                2080                2085

Arg Ser  Phe Leu Ser Leu Lys  His Thr Pro Met Gly  Lys Lys Ser
    2090                2095                2100

Arg Arg  Pro Ser Ala Lys Ser  Thr Met Pro Thr Ser  Leu Pro Asn
    2105                2110                2115

Leu Ala  Lys Glu Ala Lys Asp  Ala Lys Gly Ser Arg  Arg Lys Lys
    2120                2125                2130

Ser Leu  Ser Glu Lys Val Gln  Leu Ser Glu Ser Ser  Val Thr Leu
    2135                2140                2145

Ser Pro  Val Asp Ser Leu Glu  Ser Pro His Thr Tyr  Val Ser Asp
    2150                2155                2160

Thr Thr  Ser Ser Pro Met Ile  Thr Ser Pro Gly Ile  Leu Gln Ala
    2165                2170                2175

Ser Pro  Asn Pro Met Leu Ala  Thr Ala Ala Pro Pro  Ala Pro Val
    2180                2185                2190

His Ala  Gln His Ala Leu Ser  Phe Ser Asn Leu His  Glu Met Gln
    2195                2200                2205

Pro Leu  Ala His Gly Ala Ser  Thr Val Leu Pro Ser  Val Ser Gln
    2210                2215                2220
```

```
Leu Leu  Ser His His His Ile  Val Ser Pro Gly Ser  Gly Ser Ala
    2225                 2230                 2235

Gly Ser  Leu Ser Arg Leu His  Pro Val Pro Val Pro  Ala Asp Trp
    2240                 2245                 2250

Met Asn  Arg Met Glu Val Asn  Glu Thr Gln Tyr Asn  Glu Met Phe
    2255                 2260                 2265

Gly Met  Val Leu Ala Pro Ala  Glu Gly Thr His Pro  Gly Ile Ala
    2270                 2275                 2280

Pro Gln  Ser Arg Pro Pro Glu  Gly Lys His Ile Thr  Thr Pro Arg
    2285                 2290                 2295

Glu Pro  Leu Pro Pro Ile Val  Thr Phe Gln Leu Ile  Pro Lys Gly
    2300                 2305                 2310

Ser Ile  Ala Gln Pro Ala Gly  Ala Pro Gln Pro Gln  Ser Thr Cys
    2315                 2320                 2325

Pro Pro  Ala Val Ala Gly Pro  Leu Pro Thr Met Tyr  Gln Ile Pro
    2330                 2335                 2340

Glu Met  Ala Arg Leu Pro Ser  Val Ala Phe Pro Thr  Ala Met Met
    2345                 2350                 2355

Pro Gln  Gln Asp Gly Gln Val  Ala Gln Thr Ile Leu  Pro Ala Tyr
    2360                 2365                 2370

His Pro  Phe Pro Ala Ser Val  Gly Lys Tyr Pro Thr  Pro Pro Ser
    2375                 2380                 2385

Gln His  Ser Tyr Ala Ser Ser  Asn Ala Ala Glu Arg  Thr Pro Ser
    2390                 2395                 2400
```

```
His Ser  Gly His Leu Gln Gly  Glu His Pro Tyr Leu  Thr Pro Ser
    2405                 2410                 2415


Pro Glu  Ser Pro Asp Gln Trp  Ser Ser Ser Ser Pro  His Ser Ala
    2420                 2425                 2430


Ser Asp  Trp Ser Asp Val Thr  Thr Ser Pro Thr Pro  Gly Gly Ala
    2435                 2440                 2445


Gly Gly  Gly Gln Arg Gly Pro  Gly Thr His Met Ser  Glu Pro Pro
    2450                 2455                 2460


His Asn  Asn Met Gln Val Tyr  Ala
    2465                 2470


<210>  9
<211>  2321
<212>  PRT
<213>  Homo sapiens

<400>  9

Met Gly Pro Gly Ala Arg Gly Arg Arg Arg Arg Arg Arg Pro Met Ser
1               5                   10                  15


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


Leu Ala Gly Pro Gly Ala Ala Ala Pro Pro Cys Leu Asp Gly Ser Pro
        35                  40                  45


Cys Ala Asn Gly Gly Arg Cys Thr Gln Leu Pro Ser Arg Glu Ala Ala
    50                  55                  60


Cys Leu Cys Pro Pro Gly Trp Val Gly Glu Arg Cys Gln Leu Glu Asp
65                  70                  75                  80
```

```
Pro Cys His Ser Gly Pro Cys Ala Gly Arg Gly Val Cys Gln Ser Ser
                85                  90                  95

Val Val Ala Gly Thr Ala Arg Phe Ser Cys Arg Cys Pro Arg Gly Phe
            100                 105                 110

Arg Gly Pro Asp Cys Ser Leu Pro Asp Pro Cys Leu Ser Ser Pro Cys
        115                 120                 125

Ala His Gly Ala Arg Cys Ser Val Gly Pro Asp Gly Arg Phe Leu Cys
    130                 135                 140

Ser Cys Pro Pro Gly Tyr Gln Gly Arg Ser Cys Arg Ser Asp Val Asp
145                 150                 155                 160

Glu Cys Arg Val Gly Glu Pro Cys Arg His Gly Gly Thr Cys Leu Asn
                165                 170                 175

Thr Pro Gly Ser Phe Arg Cys Gln Cys Pro Ala Gly Tyr Thr Gly Pro
            180                 185                 190

Leu Cys Glu Asn Pro Ala Val Pro Cys Ala Pro Ser Pro Cys Arg Asn
        195                 200                 205

Gly Gly Thr Cys Arg Gln Ser Gly Asp Leu Thr Tyr Asp Cys Ala Cys
    210                 215                 220

Leu Pro Gly Phe Glu Gly Gln Asn Cys Glu Val Asn Val Asp Asp Cys
225                 230                 235                 240

Pro Gly His Arg Cys Leu Asn Gly Gly Thr Cys Val Asp Gly Val Asn
                245                 250                 255

Thr Tyr Asn Cys Gln Cys Pro Pro Glu Trp Thr Gly Gln Phe Cys Thr
            260                 265                 270
```

```
Glu Asp Val Asp Glu Cys Gln Leu Gln Pro Asn Ala Cys His Asn Gly
        275                 280                 285

Gly Thr Cys Phe Asn Thr Leu Gly Gly His Ser Cys Val Cys Val Asn
    290                 295                 300

Gly Trp Thr Gly Glu Ser Cys Ser Gln Asn Ile Asp Asp Cys Ala Thr
305                 310                 315                 320

Ala Val Cys Phe His Gly Ala Thr Cys His Asp Arg Val Ala Ser Phe
                325                 330                 335

Tyr Cys Ala Cys Pro Met Gly Lys Thr Gly Leu Leu Cys His Leu Asp
            340                 345                 350

Asp Ala Cys Val Ser Asn Pro Cys His Glu Asp Ala Ile Cys Asp Thr
        355                 360                 365

Asn Pro Val Asn Gly Arg Ala Ile Cys Thr Cys Pro Pro Gly Phe Thr
    370                 375                 380

Gly Gly Ala Cys Asp Gln Asp Val Asp Glu Cys Ser Ile Gly Ala Asn
385                 390                 395                 400

Pro Cys Glu His Leu Gly Arg Cys Val Asn Thr Gln Gly Ser Phe Leu
                405                 410                 415

Cys Gln Cys Gly Arg Gly Tyr Thr Gly Pro Arg Cys Glu Thr Asp Val
            420                 425                 430

Asn Glu Cys Leu Ser Gly Pro Cys Arg Asn Gln Ala Thr Cys Leu Asp
        435                 440                 445

Arg Ile Gly Gln Phe Thr Cys Ile Cys Met Ala Gly Phe Thr Gly Thr
    450                 455                 460
```

```
Tyr Cys Glu Val Asp Ile Asp Glu Cys Gln Ser Ser Pro Cys Val Asn
465                 470                 475                 480

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

Ser Gly Phe Ser Gly Ser Thr Cys Gln Leu Asp Val Asp Glu Cys Ala
            500                 505                 510

Ser Thr Pro Cys Arg Asn Gly Ala Lys Cys Val Asp Gln Pro Asp Gly
        515                 520                 525

Tyr Glu Cys Arg Cys Ala Glu Gly Phe Glu Gly Thr Leu Cys Asp Arg
    530                 535                 540

Asn Val Asp Asp Cys Ser Pro Asp Pro Cys His His Gly Arg Cys Val
545                 550                 555                 560

Asp Gly Ile Ala Ser Phe Ser Cys Ala Cys Ala Pro Gly Tyr Thr Gly
                565                 570                 575

Thr Arg Cys Glu Ser Gln Val Asp Glu Cys Arg Ser Gln Pro Cys Arg
            580                 585                 590

His Gly Gly Lys Cys Leu Asp Leu Val Asp Lys Tyr Leu Cys Arg Cys
        595                 600                 605

Pro Ser Gly Thr Thr Gly Val Asn Cys Glu Val Asn Ile Asp Asp Cys
    610                 615                 620

Ala Ser Asn Pro Cys Thr Phe Gly Val Cys Arg Asp Gly Ile Asn Arg
625                 630                 635                 640

Tyr Asp Cys Val Cys Gln Pro Gly Phe Thr Gly Pro Leu Cys Asn Val
                645                 650                 655
```

```
Glu Ile Asn Glu Cys Ala Ser Ser Pro Cys Gly Glu Gly Gly Ser Cys
            660                 665                 670

Val Asp Gly Glu Asn Gly Phe Arg Cys Leu Cys Pro Pro Gly Ser Leu
        675                 680                 685

Pro Pro Leu Cys Leu Pro Pro Ser His Pro Cys Ala His Glu Pro Cys
    690                 695                 700

Ser His Gly Ile Cys Tyr Asp Ala Pro Gly Gly Phe Arg Cys Val Cys
705                 710                 715                 720

Glu Pro Gly Trp Ser Gly Pro Arg Cys Ser Gln Ser Leu Ala Arg Asp
                725                 730                 735

Ala Cys Glu Ser Gln Pro Cys Arg Ala Gly Gly Thr Cys Ser Ser Asp
            740                 745                 750

Gly Met Gly Phe His Cys Thr Cys Pro Pro Gly Val Gln Gly Arg Gln
        755                 760                 765

Cys Glu Leu Leu Ser Pro Cys Thr Pro Asn Pro Cys Glu His Gly Gly
    770                 775                 780

Arg Cys Glu Ser Ala Pro Gly Gln Leu Pro Val Cys Ser Cys Pro Gln
785                 790                 795                 800

Gly Trp Gln Gly Pro Arg Cys Gln Gln Asp Val Asp Glu Cys Ala Gly
                805                 810                 815

Pro Ala Pro Cys Gly Pro His Gly Ile Cys Thr Asn Leu Ala Gly Ser
            820                 825                 830

Phe Ser Cys Thr Cys His Gly Gly Tyr Thr Gly Pro Ser Cys Asp Gln
        835                 840                 845
```

```
Asp Ile Asn Asp Cys Asp Pro Asn Pro Cys Leu Asn Gly Gly Ser Cys
    850                 855                 860

Gln Asp Gly Val Gly Ser Phe Ser Cys Ser Cys Leu Pro Gly Phe Ala
865                 870                 875                 880

Gly Pro Arg Cys Ala Arg Asp Val Asp Glu Cys Leu Ser Asn Pro Cys
                885                 890                 895

Gly Pro Gly Thr Cys Thr Asp His Val Ala Ser Phe Thr Cys Thr Cys
            900                 905                 910

Pro Pro Gly Tyr Gly Gly Phe His Cys Glu Gln Asp Leu Pro Asp Cys
        915                 920                 925

Ser Pro Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Val Asn
    930                 935                 940

Ser Phe Ser Cys Leu Cys Arg Pro Gly Tyr Thr Gly Ala His Cys Gln
945                 950                 955                 960

His Glu Ala Asp Pro Cys Leu Ser Arg Pro Cys Leu His Gly Gly Val
                965                 970                 975

Cys Ser Ala Ala His Pro Gly Phe Arg Cys Thr Cys Leu Glu Ser Phe
            980                 985                 990

Thr Gly Pro Gln Cys Gln Thr Leu  Val Asp Trp Cys Ser  Arg Gln Pro
        995                 1000                1005

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

Cys Pro  Pro Gly Trp Ser Gly  Arg Leu Cys Asp Ile  Arg Ser Leu
    1025                1030                1035
```

```
Pro Cys  Arg Glu Ala Ala Ala  Gln Ile Gly Val Arg  Leu Glu Gln
    1040                1045                1050

Leu Cys  Gln Ala Gly Gly Gln  Cys Val Asp Glu Asp  Ser Ser His
    1055                1060                1065

Tyr Cys  Val Cys Pro Glu Gly  Arg Thr Gly Ser His  Cys Glu Gln
    1070                1075                1080

Glu Val  Asp Pro Cys Leu Ala  Gln Pro Cys Gln His  Gly Gly Thr
    1085                1090                1095

Cys Arg  Gly Tyr Met Gly Gly  Tyr Met Cys Glu Cys  Leu Pro Gly
    1100                1105                1110

Tyr Asn  Gly Asp Asn Cys Glu  Asp Asp Val Asp Glu  Cys Ala Ser
    1115                1120                1125

Gln Pro  Cys Gln His Gly Gly  Ser Cys Ile Asp Leu  Val Ala Arg
    1130                1135                1140

Tyr Leu  Cys Ser Cys Pro Pro  Gly Thr Leu Gly Val  Leu Cys Glu
    1145                1150                1155

Ile Asn  Glu Asp Asp Cys Gly  Pro Gly Pro Pro Leu  Asp Ser Gly
    1160                1165                1170

Pro Arg  Cys Leu His Asn Gly  Thr Cys Val Asp Leu  Val Gly Gly
    1175                1180                1185

Phe Arg  Cys Thr Cys Pro Pro  Gly Tyr Thr Gly Leu  Arg Cys Glu
    1190                1195                1200

Ala Asp  Ile Asn Glu Cys Arg  Ser Gly Ala Cys His  Ala Ala His
    1205                1210                1215
```

```
Thr Arg  Asp Cys Leu Gln Asp  Pro Gly Gly Gly Phe  Arg Cys Leu
    1220                1225                1230

Cys His  Ala Gly Phe Ser Gly  Pro Arg Cys Gln Thr  Val Leu Ser
    1235                1240                1245

Pro Cys  Glu Ser Gln Pro Cys  Gln His Gly Gly Gln  Cys Arg Pro
    1250                1255                1260

Ser Pro  Gly Pro Gly Gly Gly  Leu Thr Phe Thr Cys  His Cys Ala
    1265                1270                1275

Gln Pro  Phe Trp Gly Pro Arg  Cys Glu Arg Val Ala  Arg Ser Cys
    1280                1285                1290

Arg Glu  Leu Gln Cys Pro Val  Gly Val Pro Cys Gln  Gln Thr Pro
    1295                1300                1305

Arg Gly  Pro Arg Cys Ala Cys  Pro Pro Gly Leu Ser  Gly Pro Ser
    1310                1315                1320

Cys Arg  Ser Phe Pro Gly Ser  Pro Pro Gly Ala Ser  Asn Ala Ser
    1325                1330                1335

Cys Ala  Ala Ala Pro Cys Leu  His Gly Gly Ser Cys  Arg Pro Ala
    1340                1345                1350

Pro Leu  Ala Pro Phe Phe Arg  Cys Ala Cys Ala Gln  Gly Trp Thr
    1355                1360                1365

Gly Pro  Arg Cys Glu Ala Pro  Ala Ala Ala Pro Glu  Val Ser Glu
    1370                1375                1380

Glu Pro  Arg Cys Pro Arg Ala  Ala Cys Gln Ala Lys  Arg Gly Asp
    1385                1390                1395
```

```
Gln Arg  Cys Asp Arg Glu Cys  Asn Ser Pro Gly Cys  Gly Trp Asp
    1400                1405                1410

Gly Gly  Asp Cys Ser Leu Ser  Val Gly Asp Pro Trp  Arg Gln Cys
    1415                1420                1425

Glu Ala  Leu Gln Cys Trp Arg  Leu Phe Asn Asn Ser  Arg Cys Asp
    1430                1435                1440

Pro Ala  Cys Ser Ser Pro Ala  Cys Leu Tyr Asp Asn  Phe Asp Cys
    1445                1450                1455

His Ala  Gly Gly Arg Glu Arg  Thr Cys Asn Pro Val  Tyr Glu Lys
    1460                1465                1470

Tyr Cys  Ala Asp His Phe Ala  Asp Gly Arg Cys Asp  Gln Gly Cys
    1475                1480                1485

Asn Thr  Glu Glu Cys Gly Trp  Asp Gly Leu Asp Cys  Ala Ser Glu
    1490                1495                1500

Val Pro  Ala Leu Leu Ala Arg  Gly Val Leu Val Leu  Thr Val Leu
    1505                1510                1515

Leu Pro  Pro Glu Glu Leu Leu  Arg Ser Ser Ala Asp  Phe Leu Gln
    1520                1525                1530

Arg Leu  Ser Ala Ile Leu Arg  Thr Ser Leu Arg Phe  Arg Leu Asp
    1535                1540                1545

Ala His  Gly Gln Ala Met Val  Phe Pro Tyr His Arg  Pro Ser Pro
    1550                1555                1560

Gly Ser  Glu Pro Arg Ala Arg  Arg Glu Leu Ala Pro  Glu Val Ile
    1565                1570                1575
```

```
Gly Ser  Val Val Met Leu Glu  Ile Asp Asn Arg Leu  Cys Leu Gln
    1580                1585                1590

Ser Pro  Glu Asn Asp His Cys  Phe Pro Asp Ala Gln  Ser Ala Ala
    1595                1600                1605

Asp Tyr  Leu Gly Ala Leu Ser  Ala Val Glu Arg Leu  Asp Phe Pro
    1610                1615                1620

Tyr Pro  Leu Arg Asp Val Arg  Gly Glu Pro Leu Glu  Pro Pro Glu
    1625                1630                1635

Pro Ser  Val Pro Leu Leu Pro  Leu Leu Val Ala Gly  Ala Val Leu
    1640                1645                1650

Leu Leu  Val Ile Leu Val Leu  Gly Val Met Val Ala  Arg Arg Lys
    1655                1660                1665

Arg Glu  His Ser Thr Leu Trp  Phe Pro Glu Gly Phe  Ser Leu His
    1670                1675                1680

Lys Asp  Val Ala Ser Gly His  Lys Gly Arg Arg Glu  Pro Val Gly
    1685                1690                1695

Gln Asp  Ala Leu Gly Met Lys  Asn Met Ala Lys Gly  Glu Ser Leu
    1700                1705                1710

Met Gly  Glu Val Ala Thr Asp  Trp Met Asp Thr Glu  Cys Pro Glu
    1715                1720                1725

Ala Lys  Arg Leu Lys Val Glu  Glu Pro Gly Met Gly  Ala Glu Glu
    1730                1735                1740

Ala Val  Asp Cys Arg Gln Trp  Thr Gln His His Leu  Val Ala Ala
    1745                1750                1755
```

```
Asp Ile  Arg Val Ala Pro Ala  Met Ala Leu Thr Pro  Pro Gln Gly
    1760                1765                1770

Asp Ala  Asp Ala Asp Gly Met  Asp Val Asn Val Arg  Gly Pro Asp
    1775                1780                1785

Gly Phe  Thr Pro Leu Met Leu  Ala Ser Phe Cys Gly  Gly Ala Leu
    1790                1795                1800

Glu Pro  Met Pro Thr Glu Glu  Asp Glu Ala Asp Asp  Thr Ser Ala
    1805                1810                1815

Ser Ile  Ile Ser Asp Leu Ile  Cys Gln Gly Ala Gln  Leu Gly Ala
    1820                1825                1830

Arg Thr  Asp Arg Thr Gly Glu  Thr Ala Leu His Leu  Ala Ala Arg
    1835                1840                1845

Tyr Ala  Arg Ala Asp Ala Ala  Lys Arg Leu Leu Asp  Ala Gly Ala
    1850                1855                1860

Asp Thr  Asn Ala Gln Asp His  Ser Gly Arg Thr Pro  Leu His Thr
    1865                1870                1875

Ala Val  Thr Ala Asp Ala Gln  Gly Val Phe Gln Ile  Leu Ile Arg
    1880                1885                1890

Asn Arg  Ser Thr Asp Leu Asp  Ala Arg Met Ala Asp  Gly Ser Thr
    1895                1900                1905

Ala Leu  Ile Leu Ala Ala Arg  Leu Ala Val Glu Gly  Met Val Glu
    1910                1915                1920

Glu Leu  Ile Ala Ser His Ala  Asp Val Asn Ala Val  Asp Glu Leu
    1925                1930                1935
```

```
Gly Lys  Ser Ala Leu His Trp  Ala Ala Ala Val Asn  Asn Val Glu
    1940                1945                1950

Ala Thr  Leu Ala Leu Leu Lys  Asn Gly Ala Asn Lys  Asp Met Gln
    1955                1960                1965

Asp Ser  Lys Glu Glu Thr Pro  Leu Phe Leu Ala Ala  Arg Glu Gly
    1970                1975                1980

Ser Tyr  Glu Ala Ala Lys Leu  Leu Leu Asp His Phe  Ala Asn Arg
    1985                1990                1995

Glu Ile  Thr Asp His Leu Asp  Arg Leu Pro Arg Asp  Val Ala Gln
    2000                2005                2010

Glu Arg  Leu His Gln Asp Ile  Val Arg Leu Leu Asp  Gln Pro Ser
    2015                2020                2025

Gly Pro  Arg Ser Pro Pro Gly  Pro His Gly Leu Gly  Pro Leu Leu
    2030                2035                2040

Cys Pro  Pro Gly Ala Phe Leu  Pro Gly Leu Lys Ala  Ala Gln Ser
    2045                2050                2055

Gly Ser  Lys Lys Ser Arg Arg  Pro Pro Gly Lys Ala  Gly Leu Gly
    2060                2065                2070

Pro Gln  Gly Pro Arg Gly Arg  Gly Lys Lys Leu Thr  Leu Ala Cys
    2075                2080                2085

Pro Gly  Pro Leu Ala Asp Ser  Ser Val Thr Leu Ser  Pro Val Asp
    2090                2095                2100

Ser Leu  Asp Ser Pro Arg Pro  Phe Gly Gly Pro Pro  Ala Ser Pro
    2105                2110                2115
```

```
Gly Gly  Phe Pro Leu Glu Gly  Pro Tyr Ala Ala Ala  Thr Ala Thr
    2120                2125                2130

Ala Val  Ser Leu Ala Gln Leu  Gly Gly Pro Gly Arg  Ala Gly Leu
    2135                2140                2145

Gly Arg  Gln Pro Pro Gly Gly  Cys Val Leu Ser Leu  Gly Leu Leu
    2150                2155                2160

Asn Pro  Val Ala Val Pro Leu  Asp Trp Ala Arg Leu  Pro Pro Pro
    2165                2170                2175

Ala Pro  Pro Gly Pro Ser Phe  Leu Leu Pro Leu Ala  Pro Gly Pro
    2180                2185                2190

Gln Leu  Leu Asn Pro Gly Thr  Pro Val Ser Pro Gln  Glu Arg Pro
    2195                2200                2205

Pro Pro  Tyr Leu Ala Val Pro  Gly His Gly Glu Glu  Tyr Pro Ala
    2210                2215                2220

Ala Gly  Ala His Ser Ser Pro  Pro Lys Ala Arg Phe  Leu Arg Val
    2225                2230                2235

Pro Ser  Glu His Pro Tyr Leu  Thr Pro Ser Pro Glu  Ser Pro Glu
    2240                2245                2250

His Trp  Ala Ser Pro Ser Pro  Pro Ser Leu Ser Asp  Trp Ser Glu
    2255                2260                2265

Ser Thr  Pro Ser Pro Ala Thr  Ala Thr Gly Ala Met  Ala Thr Thr
    2270                2275                2280

Thr Gly  Ala Leu Pro Ala Gln  Pro Leu Pro Leu Ser  Val Pro Ser
    2285                2290                2295
```

```
Ser Leu  Ala Gln Ala Gln Thr  Gln Leu Gly Pro Gln  Pro Glu Val
    2300                2305                2310


Thr Pro  Lys Arg Gln Val Leu  Ala
    2315                2320


<210>  10
<211>  2003
<212>  PRT
<213>  Homo sapiens

<400>  10

Met Gln Pro Pro Ser Leu Leu Leu Leu Leu Leu Leu Leu Leu Leu Leu
1               5                  10                  15


Cys Val Ser Val Val Arg Pro Arg Gly Leu Leu Cys Gly Ser Phe Pro
            20                  25                  30


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


Gly Thr Cys Gln Cys Ala Pro Gly Phe Leu Gly Glu Thr Cys Gln Phe
    50                  55                  60


Pro Asp Pro Cys Gln Asn Ala Gln Leu Cys Gln Asn Gly Gly Ser Cys
65                  70                  75                  80


Gln Ala Leu Leu Pro Ala Pro Leu Gly Leu Pro Ser Ser Pro Ser Pro
                85                  90                  95


Leu Thr Pro Ser Phe Leu Cys Thr Cys Leu Pro Gly Phe Thr Gly Glu
            100                 105                 110


Arg Cys Gln Ala Lys Leu Glu Asp Pro Cys Pro Pro Ser Phe Cys Ser
        115                 120                 125
```

```
Lys Arg Gly Arg Cys His Ile Gln Ala Ser Gly Arg Pro Gln Cys Ser
    130                 135                 140

Cys Met Pro Gly Trp Thr Gly Glu Gln Cys Gln Leu Arg Asp Phe Cys
145                 150                 155                 160

Ser Ala Asn Pro Cys Val Asn Gly Gly Val Cys Leu Ala Thr Tyr Pro
                165                 170                 175

Gln Ile Gln Cys His Cys Pro Pro Gly Phe Glu Gly His Ala Cys Glu
            180                 185                 190

Arg Asp Val Asn Glu Cys Phe Gln Asp Pro Gly Pro Cys Pro Lys Gly
        195                 200                 205

Thr Ser Cys His Asn Thr Leu Gly Ser Phe Gln Cys Leu Cys Pro Val
    210                 215                 220

Gly Gln Glu Gly Pro Arg Cys Glu Leu Arg Ala Gly Pro Cys Pro Pro
225                 230                 235                 240

Arg Gly Cys Ser Asn Gly Gly Thr Cys Gln Leu Met Pro Glu Lys Asp
                245                 250                 255

Ser Thr Phe His Leu Cys Leu Cys Pro Pro Gly Phe Ile Gly Pro Asp
            260                 265                 270

Cys Glu Val Asn Pro Asp Asn Cys Val Ser His Gln Cys Gln Asn Gly
        275                 280                 285

Gly Thr Cys Gln Asp Gly Leu Asp Thr Tyr Thr Cys Leu Cys Pro Glu
    290                 295                 300

Thr Trp Thr Gly Trp Asp Cys Ser Glu Asp Val Asp Glu Cys Glu Thr
305                 310                 315                 320
```

```
Gln Gly Pro Pro His Cys Arg Asn Gly Gly Thr Cys Gln Asn Ser Ala
                325                 330                 335

Gly Ser Phe His Cys Val Cys Val Ser Gly Trp Gly Gly Thr Ser Cys
            340                 345                 350

Glu Glu Asn Leu Asp Asp Cys Ile Ala Ala Thr Cys Ala Pro Gly Ser
        355                 360                 365

Thr Cys Ile Asp Arg Val Gly Ser Phe Ser Cys Leu Cys Pro Pro Gly
    370                 375                 380

Arg Thr Gly Leu Leu Cys His Leu Glu Asp Met Cys Leu Ser Gln Pro
385                 390                 395                 400

Cys His Gly Asp Ala Gln Cys Ser Thr Asn Pro Leu Thr Gly Ser Thr
                405                 410                 415

Leu Cys Leu Cys Gln Pro Gly Tyr Ser Gly Pro Thr Cys His Gln Asp
            420                 425                 430

Leu Asp Glu Cys Leu Met Ala Gln Gln Gly Pro Ser Pro Cys Glu His
        435                 440                 445

Gly Gly Ser Cys Leu Asn Thr Pro Gly Ser Phe Asn Cys Leu Cys Pro
    450                 455                 460

Pro Gly Tyr Thr Gly Ser Arg Cys Glu Ala Asp His Asn Glu Cys Leu
465                 470                 475                 480

Ser Gln Pro Cys His Pro Gly Ser Thr Cys Leu Asp Leu Leu Ala Thr
                485                 490                 495

Phe His Cys Leu Cys Pro Pro Gly Leu Glu Gly Gln Leu Cys Glu Val
            500                 505                 510
```

```
Glu Thr Asn Glu Cys Ala Ser Ala Pro Cys Leu Asn His Ala Asp Cys
        515                 520                 525

His Asp Leu Leu Asn Gly Phe Gln Cys Ile Cys Leu Pro Gly Phe Ser
    530                 535                 540

Gly Thr Arg Cys Glu Glu Asp Ile Asp Glu Cys Arg Ser Ser Pro Cys
545                 550                 555                 560

Ala Asn Gly Gly Gln Cys Gln Asp Gln Pro Gly Ala Phe His Cys Lys
                565                 570                 575

Cys Leu Pro Gly Phe Glu Gly Pro Arg Cys Gln Thr Glu Val Asp Glu
            580                 585                 590

Cys Leu Ser Asp Pro Cys Pro Val Gly Ala Ser Cys Leu Asp Leu Pro
        595                 600                 605

Gly Ala Phe Phe Cys Leu Cys Pro Ser Gly Phe Thr Gly Gln Leu Cys
    610                 615                 620

Glu Val Pro Leu Cys Ala Pro Asn Leu Cys Gln Pro Lys Gln Ile Cys
625                 630                 635                 640

Lys Asp Gln Lys Asp Lys Ala Asn Cys Leu Cys Pro Asp Gly Ser Pro
                645                 650                 655

Gly Cys Ala Pro Pro Glu Asp Asn Cys Thr Cys His His Gly His Cys
            660                 665                 670

Gln Arg Ser Ser Cys Val Cys Asp Val Gly Trp Thr Gly Pro Glu Cys
        675                 680                 685

Glu Ala Glu Leu Gly Gly Cys Ile Ser Ala Pro Cys Ala His Gly Gly
    690                 695                 700
```

```
Thr Cys Tyr Pro Gln Pro Ser Gly Tyr Asn Cys Thr Cys Pro Thr Gly
705                 710                 715                 720


Tyr Thr Gly Pro Thr Cys Ser Glu Glu Met Thr Ala Cys His Ser Gly
                725                 730                 735


Pro Cys Leu Asn Gly Gly Ser Cys Asn Pro Ser Pro Gly Gly Tyr Tyr
            740                 745                 750


Cys Thr Cys Pro Pro Ser His Thr Gly Pro Gln Cys Gln Thr Ser Thr
        755                 760                 765


Asp Tyr Cys Val Ser Ala Pro Cys Phe Asn Gly Gly Thr Cys Val Asn
    770                 775                 780


Arg Pro Gly Thr Phe Ser Cys Leu Cys Ala Met Gly Phe Gln Gly Pro
785                 790                 795                 800


Arg Cys Glu Gly Lys Leu Arg Pro Ser Cys Ala Asp Ser Pro Cys Arg
                805                 810                 815


Asn Arg Ala Thr Cys Gln Asp Ser Pro Gln Gly Pro Arg Cys Leu Cys
            820                 825                 830


Pro Thr Gly Tyr Thr Gly Gly Ser Cys Gln Thr Leu Met Asp Leu Cys
        835                 840                 845


Ala Gln Lys Pro Cys Pro Arg Asn Ser His Cys Leu Gln Thr Gly Pro
    850                 855                 860


Ser Phe His Cys Leu Cys Leu Gln Gly Trp Thr Gly Pro Leu Cys Asn
865                 870                 875                 880


Leu Pro Leu Ser Ser Cys Gln Lys Ala Ala Leu Ser Gln Gly Ile Asp
                885                 890                 895
```

```
Val Ser Ser Leu Cys His Asn Gly Gly Leu Cys Val Asp Ser Gly Pro
            900                 905                 910

Ser Tyr Phe Cys His Cys Pro Pro Gly Phe Gln Gly Ser Leu Cys Gln
        915                 920                 925

Asp His Val Asn Pro Cys Glu Ser Arg Pro Cys Gln Asn Gly Ala Thr
    930                 935                 940

Cys Met Ala Gln Pro Ser Gly Tyr Leu Cys Gln Cys Ala Pro Gly Tyr
945                 950                 955                 960

Asp Gly Gln Asn Cys Ser Lys Glu Leu Asp Ala Cys Gln Ser Gln Pro
                965                 970                 975

Cys His Asn His Gly Thr Cys Thr Pro Lys Pro Gly Gly Phe His Cys
            980                 985                 990

Ala Cys Pro Pro Gly Phe Val Gly  Leu Arg Cys Glu Gly  Asp Val Asp
        995                 1000                1005

Glu Cys  Leu Asp Gln Pro Cys  His Pro Thr Gly Thr  Ala Ala Cys
    1010                1015                1020

His Ser  Leu Ala Asn Ala Phe  Tyr Cys Gln Cys Leu  Pro Gly His
    1025                1030                1035

Thr Gly  Gln Trp Cys Glu Val  Glu Ile Asp Pro Cys  His Ser Gln
    1040                1045                1050

Pro Cys  Phe His Gly Gly Thr  Cys Glu Ala Thr Ala  Gly Ser Pro
    1055                1060                1065

Leu Gly  Phe Ile Cys His Cys  Pro Lys Gly Phe Glu  Gly Pro Thr
    1070                1075                1080
```

```
Cys Ser  His Arg Ala Pro Ser  Cys Gly Phe His His  Cys His His
    1085                 1090                 1095

Gly Gly  Leu Cys Leu Pro Ser  Pro Lys Pro Gly Phe  Pro Pro Arg
    1100                 1105                 1110

Cys Ala  Cys Leu Ser Gly Tyr  Gly Gly Pro Asp Cys  Leu Thr Pro
    1115                 1120                 1125

Pro Ala  Pro Lys Gly Cys Gly  Pro Pro Ser Pro Cys  Leu Tyr Asn
    1130                 1135                 1140

Gly Ser  Cys Ser Glu Thr Thr  Gly Leu Gly Gly Pro  Gly Phe Arg
    1145                 1150                 1155

Cys Ser  Cys Pro His Ser Ser  Pro Gly Pro Arg Cys  Gln Lys Pro
    1160                 1165                 1170

Gly Ala  Lys Gly Cys Glu Gly  Arg Ser Gly Asp Gly  Ala Cys Asp
    1175                 1180                 1185

Ala Gly  Cys Ser Gly Pro Gly  Gly Asn Trp Asp Gly  Gly Asp Cys
    1190                 1195                 1200

Ser Leu  Gly Val Pro Asp Pro  Trp Lys Gly Cys Pro  Ser His Ser
    1205                 1210                 1215

Arg Cys  Trp Leu Leu Phe Arg  Asp Gly Gln Cys His  Pro Gln Cys
    1220                 1225                 1230

Asp Ser  Glu Glu Cys Leu Phe  Asp Gly Tyr Asp Cys  Glu Thr Pro
    1235                 1240                 1245

Pro Ala  Cys Thr Pro Ala Tyr  Asp Gln Tyr Cys His  Asp His Phe
    1250                 1255                 1260
```

```
His Asn  Gly His Cys Glu Lys  Gly Cys Asn Thr Ala  Glu Cys Gly
    1265                1270                1275

Trp Asp  Gly Gly Asp Cys Arg  Pro Glu Asp Gly Asp  Pro Glu Trp
    1280                1285                1290

Gly Pro  Ser Leu Ala Leu Leu  Val Val Leu Ser Pro  Pro Ala Leu
    1295                1300                1305

Asp Gln  Gln Leu Phe Ala Leu  Ala Arg Val Leu Ser  Leu Thr Leu
    1310                1315                1320

Arg Val  Gly Leu Trp Val Arg  Lys Asp Arg Asp Gly  Arg Asp Met
    1325                1330                1335

Val Tyr  Pro Tyr Pro Gly Ala  Arg Ala Glu Glu Lys  Leu Gly Gly
    1340                1345                1350

Thr Arg  Asp Pro Thr Tyr Gln  Glu Arg Ala Ala Pro  Gln Thr Gln
    1355                1360                1365

Pro Leu  Gly Lys Glu Thr Asp  Ser Leu Ser Ala Gly  Phe Val Val
    1370                1375                1380

Val Met  Gly Val Asp Leu Ser  Arg Cys Gly Pro Asp  His Pro Ala
    1385                1390                1395

Ser Arg  Cys Pro Trp Asp Pro  Gly Leu Leu Leu Arg  Phe Leu Ala
    1400                1405                1410

Ala Met  Ala Ala Val Gly Ala  Leu Glu Pro Leu Leu  Pro Gly Pro
    1415                1420                1425

Leu Leu  Ala Val His Pro His  Ala Gly Thr Ala Pro  Pro Ala Asn
    1430                1435                1440
```

```
Gln Leu  Pro Trp Pro Val Leu  Cys Ser Pro Val Ala  Gly Val Ile
    1445                1450                1455

Leu Leu  Ala Leu Gly Ala Leu  Leu Val Leu Gln Leu  Ile Arg Arg
    1460                1465                1470

Arg Arg  Arg Glu His Gly Ala  Leu Trp Leu Pro Pro  Gly Phe Thr
    1475                1480                1485

Arg Arg  Pro Arg Thr Gln Ser  Ala Pro His Arg Arg  Arg Pro Pro
    1490                1495                1500

Leu Gly  Glu Asp Ser Ile Gly  Leu Lys Ala Leu Lys  Pro Lys Ala
    1505                1510                1515

Glu Val  Asp Glu Asp Gly Val  Val Met Cys Ser Gly  Pro Glu Glu
    1520                1525                1530

Gly Glu  Glu Val Gly Gln Ala  Glu Glu Thr Gly Pro  Pro Ser Thr
    1535                1540                1545

Cys Gln  Leu Trp Ser Leu Ser  Gly Gly Cys Gly Ala  Leu Pro Gln
    1550                1555                1560

Ala Ala  Met Leu Thr Pro Pro  Gln Glu Ser Glu Met  Glu Ala Pro
    1565                1570                1575

Asp Leu  Asp Thr Arg Gly Pro  Asp Gly Val Thr Pro  Leu Met Ser
    1580                1585                1590

Ala Val  Cys Cys Gly Glu Val  Gln Ser Gly Thr Phe  Gln Gly Ala
    1595                1600                1605

Trp Leu  Gly Cys Pro Glu Pro  Trp Glu Pro Leu Leu  Asp Gly Gly
    1610                1615                1620
```

```
Ala Cys  Pro Gln Ala His Thr  Val Gly Thr Gly Glu  Thr Pro Leu
    1625                1630                1635

His Leu  Ala Ala Arg Phe Ser  Arg Pro Thr Ala Ala  Arg Arg Leu
    1640                1645                1650

Leu Glu  Ala Gly Ala Asn Pro  Asn Gln Pro Asp Arg  Ala Gly Arg
    1655                1660                1665

Thr Pro  Leu His Ala Ala Val  Ala Ala Asp Ala Arg  Glu Val Cys
    1670                1675                1680

Gln Leu  Leu Leu Arg Ser Arg  Gln Thr Ala Val Asp  Ala Arg Thr
    1685                1690                1695

Glu Asp  Gly Thr Thr Pro Leu  Met Leu Ala Ala Arg  Leu Ala Val
    1700                1705                1710

Glu Asp  Leu Val Glu Glu Leu  Ile Ala Ala Gln Ala  Asp Val Gly
    1715                1720                1725

Ala Arg  Asp Lys Trp Gly Lys  Thr Ala Leu His Trp  Ala Ala Ala
    1730                1735                1740

Val Asn  Asn Ala Arg Ala Ala  Arg Ser Leu Leu Gln  Ala Gly Ala
    1745                1750                1755

Asp Lys  Asp Ala Gln Asp Asn  Arg Glu Gln Thr Pro  Leu Phe Leu
    1760                1765                1770

Ala Ala  Arg Glu Gly Ala Val  Glu Val Ala Gln Leu  Leu Leu Gly
    1775                1780                1785

Leu Gly  Ala Ala Arg Glu Leu  Arg Asp Gln Ala Gly  Leu Ala Pro
    1790                1795                1800
```

```
Ala Asp  Val Ala His Gln Arg  Asn His Trp Asp Leu  Leu Thr Leu
    1805                 1810                 1815

Leu Glu  Gly Ala Gly Pro Pro  Glu Ala Arg His Lys  Ala Thr Pro
    1820                 1825                 1830

Gly Arg  Glu Ala Gly Pro Phe  Pro Arg Ala Arg Thr  Val Ser Val
    1835                 1840                 1845

Ser Val  Pro Pro His Gly Gly  Gly Ala Leu Pro Arg  Cys Arg Thr
    1850                 1855                 1860

Leu Ser  Ala Gly Ala Gly Pro  Arg Gly Gly Gly Ala  Cys Leu Gln
    1865                 1870                 1875

Ala Arg  Thr Trp Ser Val Asp  Leu Ala Ala Arg Gly  Gly Gly Ala
    1880                 1885                 1890

Tyr Ser  His Cys Arg Ser Leu  Ser Gly Val Gly Ala  Gly Gly Gly
    1895                 1900                 1905

Pro Thr  Pro Arg Gly Arg Arg  Phe Ser Ala Gly Met  Arg Gly Pro
    1910                 1915                 1920

Arg Pro  Asn Pro Ala Ile Met  Arg Gly Arg Tyr Gly  Val Ala Ala
    1925                 1930                 1935

Gly Arg  Gly Gly Arg Val Ser  Thr Asp Asp Trp Pro  Cys Asp Trp
    1940                 1945                 1950

Val Ala  Leu Gly Ala Cys Gly  Ser Ala Ser Asn Ile  Pro Ile Pro
    1955                 1960                 1965

Pro Pro  Cys Leu Thr Pro Ser  Pro Glu Arg Gly Ser  Pro Gln Leu
    1970                 1975                 1980
```

Asp Cys Gly Pro Pro Ala Leu Gln Glu Met Pro Ile Asn Gln Gly
1985 1990 1995

Gly Glu Gly Lys Lys
2000

<210> 11
<211> 2470
<212> PRT
<213> Mus musculus

<400> 11

Met Pro Asp Leu Arg Pro Ala Ala Leu Arg Ala Leu Leu Trp Leu Trp
1 5 10 15

Leu Cys Gly Ala Gly Pro Ala His Ala Leu Gln Cys Arg Gly Gly Gln
20 25 30

Glu Pro Cys Val Asn Glu Gly Thr Cys Val Thr Tyr His Asn Gly Thr
35 40 45

Gly Phe Cys Arg Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
50 55 60

Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65 70 75 80

Pro Gln Gly Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Pro Gly Phe
85 90 95

Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
100 105 110

Arg Pro Cys Gln Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
115 120 125

Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Gln Cys Gln Trp

```
    130                 135                 140

Thr Asp Ala Cys Leu Ser His Pro Cys Glu Asn Gly Ser Thr Cys Thr
145                 150                 155                 160

Ser Val Ala Ser Gln Phe Ser Cys Lys Cys Pro Ala Gly Leu Thr Gly
                165                 170                 175

Gln Lys Cys Glu Ala Asp Ile Asn Glu Cys Asp Ile Pro Gly Arg Cys
            180                 185                 190

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

Cys Gly Gln Gly Phe Thr Gly Gln His Cys Asp Ser Pro Tyr Val Arg
    210                 215                 220

Gly Leu Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly Asp Phe
225                 230                 235                 240

Thr Leu Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr Cys Glu
                245                 250                 255

Arg Asn Ile Asp Asp Cys Pro Asn His Lys Cys Gln Asn Gly Gly Val
            260                 265                 270

Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro Gln Trp
        275                 280                 285

Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu Gln Pro
    290                 295                 300

Asn Ala Cys Gln Asn Gly Gly Thr Cys Thr Asn Arg Asn Gly Gly Tyr
305                 310                 315                 320

Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser Glu Asn
```

```
                325                 330                 335

Ile Asp Asp Cys Ala Tyr Ala Ser Cys Thr Pro Gly Ser Thr Cys Ile
            340                 345                 350

Asp Arg Val Ala Ser Phe Ser Cys Leu Cys Pro Glu Gly Lys Ala Gly
        355                 360                 365

Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys His Lys
    370                 375                 380

Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile Cys Thr
385                 390                 395                 400

Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val Asp Glu
                405                 410                 415

Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys Cys Val
            420                 425                 430

Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr Ala Gly
        435                 440                 445

Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro Cys Gln
    450                 455                 460

Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys Leu Cys
465                 470                 475                 480

Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Val Asn Glu Cys
                485                 490                 495

Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys Val Asn
            500                 505                 510

Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val Cys Gln
```

```
        515                 520                 525

Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly Ala Lys
    530                 535                 540

Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr Gly Phe
545                 550                 555                 560

Thr Gly Ile Leu Cys Asp Glu Asn Ile Asp Asn Cys Asp Pro Asp Pro
                565                 570                 575

Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr Cys Ile
            580                 585                 590

Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile Asp Glu
        595                 600                 605

Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp Leu Val
    610                 615                 620

Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Leu Asn Cys
625                 630                 635                 640

Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Met His Gly Val
                645                 650                 655

Cys Val Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro Gly Phe
            660                 665                 670

Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser Asn Pro
        675                 680                 685

Cys Arg Lys Gly Ala Thr Cys Ile Asn Asp Val Asn Gly Phe Arg Cys
    690                 695                 700

Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln Val Asn
```

705 710 715 720

Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys Thr Gly Gly Leu
725 730 735

Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Val Asn Cys
740 745 750

Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn Gly Gly
755 760 765

Thr Cys Asn Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys Lys Gly
770 775 780

Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala Ser Asn
785 790 795 800

Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Val Ser Gly Tyr Thr
805 810 815

Cys His Cys Met Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr Val Leu
820 825 830

Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys Lys Glu
835 840 845

Ala Pro Asn Phe Glu Ser Phe Ser Cys Leu Cys Ala Pro Gly Trp Gln
850 855 860

Gly Lys Arg Cys Thr Val Asp Val Asp Glu Cys Ile Ser Lys Pro Cys
865 870 875 880

Met Asn Asn Gly Val Cys His Asn Thr Gln Gly Ser Tyr Val Cys Glu
885 890 895

Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile Asn Asp

```
            900                 905                 910

Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Val Asp His Val
        915                 920                 925

Asn Thr Phe Ser Cys Gln Cys His Pro Gly Phe Ile Gly Asp Lys Cys
    930                 935                 940

Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn Gly Gly
945                 950                 955                 960

Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Thr Cys Pro Ala Gly
                965                 970                 975

Phe His Gly Val His Cys Glu Asn Asn Ile Asp Glu Cys Thr Glu Ser
            980                 985                 990

Ser Cys Phe Asn Gly Gly Thr Cys  Val Asp Gly Ile Asn  Ser Phe Ser
        995                 1000                1005

Cys Leu  Cys Pro Val Gly Phe  Thr Gly Pro Phe Cys  Leu His Asp
    1010                1015                1020

Ile Asn  Glu Cys Ser Ser Asn  Pro Cys Leu Asn Ala  Gly Thr Cys
    1025                1030                1035

Val Asp  Gly Leu Gly Thr Tyr  Arg Cys Ile Cys Pro  Leu Gly Tyr
    1040                1045                1050

Thr Gly  Lys Asn Cys Gln Thr  Leu Val Asn Leu Cys  Ser Arg Ser
    1055                1060                1065

Pro Cys  Lys Asn Lys Gly Thr  Cys Val Gln Glu Lys  Ala Arg Pro
    1070                1075                1080

His Cys  Leu Cys Pro Pro Gly  Trp Asp Gly Ala Tyr  Cys Asp Val
```

```
    1085                1090                1095

Leu Asn  Val Ser Cys Lys Ala  Ala Ala Leu Gln Lys  Gly Val Pro
    1100                1105                1110

Val Glu  His Leu Cys Gln His  Ser Gly Ile Cys Ile  Asn Ala Gly
    1115                1120                1125

Asn Thr  His His Cys Gln Cys  Pro Leu Gly Tyr Thr  Gly Ser Tyr
    1130                1135                1140

Cys Glu  Glu Gln Leu Asp Glu  Cys Ala Ser Asn Pro  Cys Gln His
    1145                1150                1155

Gly Ala  Thr Cys Asn Asp Phe  Ile Gly Gly Tyr Arg  Cys Glu Cys
    1160                1165                1170

Val Pro  Gly Tyr Gln Gly Val  Asn Cys Glu Tyr Glu  Val Asp Glu
    1175                1180                1185

Cys Gln  Asn Gln Pro Cys Gln  Asn Gly Gly Thr Cys  Ile Asp Leu
    1190                1195                1200

Val Asn  His Phe Lys Cys Ser  Cys Pro Pro Gly Thr  Arg Gly Leu
    1205                1210                1215

Leu Cys  Glu Glu Asn Ile Asp  Glu Cys Ala Gly Gly  Pro His Cys
    1220                1225                1230

Leu Asn  Gly Gly Gln Cys Val  Asp Arg Ile Gly Gly  Tyr Thr Cys
    1235                1240                1245

Arg Cys  Leu Pro Gly Phe Ala  Gly Glu Arg Cys Glu  Gly Asp Ile
    1250                1255                1260

Asn Glu  Cys Leu Ser Asn Pro  Cys Ser Ser Glu Gly  Ser Leu Asp
```

```
    1265                1270                1275

Cys Val  Gln Leu Lys Asn Asn  Tyr Asn Cys Ile Cys  Arg Ser Ala
    1280                1285                1290

Phe Thr  Gly Arg His Cys Glu  Thr Phe Leu Asp Val  Cys Pro Gln
    1295                1300                1305

Lys Pro  Cys Leu Asn Gly Gly  Thr Cys Ala Val Ala  Ser Asn Met
    1310                1315                1320

Pro Asp  Gly Phe Ile Cys Arg  Cys Pro Pro Gly Phe  Ser Gly Ala
    1325                1330                1335

Arg Leu  Gln Ser Ser Cys Gly  Gln Val Lys Cys Arg  Arg Gly Glu
    1340                1345                1350

Gln Cys  Ile His Thr Asp Ser  Gly Pro Arg Cys Phe  Cys Leu Asn
    1355                1360                1365

Pro Lys  Asp Cys Glu Ser Gly  Cys Ala Ser Asn Pro  Cys Gln His
    1370                1375                1380

Gly Gly  Thr Cys Tyr Pro Gln  Arg Gln Pro Pro His  Tyr Ser Cys
    1385                1390                1395

Arg Cys  Pro Pro Ser Phe Gly  Gly Ser His Cys Glu  Leu Tyr Thr
    1400                1405                1410

Ala Pro  Thr Ser Thr Pro Pro  Ala Thr Cys Gln Ser  Gln Tyr Cys
    1415                1420                1425

Ala Asp  Lys Ala Arg Asp Gly  Ile Cys Asp Glu Ala  Cys Asn Ser
    1430                1435                1440

His Ala  Cys Gln Trp Asp Gly  Gly Asp Cys Ser Leu  Thr Met Glu
```

```
    1445                1450                1455

Asp Pro  Trp Ala Asn Cys Thr  Ser Thr Leu Arg Cys  Trp Glu Tyr
    1460                1465                1470

Ile Asn  Asn Gln Cys Asp Glu  Gln Cys Asn Thr Ala  Glu Cys Leu
    1475                1480                1485

Phe Asp  Asn Phe Glu Cys Gln  Arg Asn Ser Lys Thr  Cys Lys Tyr
    1490                1495                1500

Asp Lys  Tyr Cys Ala Asp His  Phe Lys Asp Asn His  Cys Asp Gln
    1505                1510                1515

Gly Cys  Asn Ser Glu Glu Cys  Gly Trp Asp Gly Leu  Asp Cys Ala
    1520                1525                1530

Ser Asp  Gln Pro Glu Asn Leu  Ala Glu Gly Thr Leu  Ile Ile Val
    1535                1540                1545

Val Leu  Leu Pro Pro Glu Gln  Leu Leu Gln Asp Ser  Arg Ser Phe
    1550                1555                1560

Leu Arg  Ala Leu Gly Thr Leu  Leu His Thr Asn Leu  Arg Ile Lys
    1565                1570                1575

Gln Asp  Ser Gln Gly Ala Leu  Met Val Tyr Pro Tyr  Phe Gly Glu
    1580                1585                1590

Lys Ser  Ala Ala Met Lys Lys  Gln Lys Met Thr Arg  Arg Ser Leu
    1595                1600                1605

Pro Glu  Glu Gln Glu Gln Glu  Gln Glu Val Ile Gly  Ser Lys Ile
    1610                1615                1620

Phe Leu  Glu Ile Asp Asn Arg  Gln Cys Val Gln Asp  Ser Asp Gln
```

```
    1625                1630                1635

Cys Phe  Lys Asn Thr Asp Ala  Ala Ala Ala Leu Leu  Ala Ser His
    1640                1645                1650

Ala Ile  Gln Gly Thr Leu Ser  Tyr Pro Leu Val Ser  Val Phe Ser
    1655                1660                1665

Glu Leu  Glu Ser Pro Arg Asn  Ala Gln Leu Leu Tyr  Leu Leu Ala
    1670                1675                1680

Val Ala  Val Val Ile Ile Leu  Phe Phe Ile Leu Leu  Gly Val Ile
    1685                1690                1695

Met Ala  Lys Arg Lys Gln Ala  Trp Leu Pro Leu Ala  Ala Gly Arg
    1700                1705                1710

Phe Thr  Leu Arg Arg Asp Ser  Ser Asn His Lys Arg  Arg Glu Pro
    1715                1720                1725

Val Gly  Gln Asp Ala Val Gly  Leu Lys Asn Leu Ser  Val Gln Val
    1730                1735                1740

Ser Glu  Ala Asn Leu Ile Gly  Ser Gly Thr Ser Glu  His Trp Val
    1745                1750                1755

Asp Asp  Glu Gly Pro Gln Pro  Lys Lys Ala Lys Ala  Glu Asp Glu
    1760                1765                1770

Ala Leu  Leu Ser Glu Asp Asp  Pro Ile Asp Arg Arg  Pro Trp Thr
    1775                1780                1785

Gln Gln  His Leu Glu Ala Ala  Asp Ile Ser His Thr  Pro Ser Leu
    1790                1795                1800

Ala Leu  Thr Pro Pro Gln Ala  Glu Gln Glu Val Asp  Val Leu Asp
```

1805 1810 1815

Val Asn Val Arg Gly Pro Asp Gly Cys Thr Pro Leu Met Leu Ala
1820 1825 1830

Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser Asp Glu Asp Glu Asp
1835 1840 1845

Ala Glu Asp Ser Ser Ala Asn Ile Ile Thr Asp Leu Val Tyr Gln
1850 1855 1860

Gly Ala Ser Leu Gln Ala Gln Thr Asp Arg Thr Gly Glu Met Ala
1865 1870 1875

Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala Lys Arg
1880 1885 1890

Leu Leu Asp Ala Gly Ala Asp Arg Asn Ala Gln Asp Asn Met Gly
1895 1900 1905

Arg Cys Pro Leu His Ala Ala Val Ala Gly Asp Ala Gln Gly Val
1910 1915 1920

Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp Leu Asp Ala Arg
1925 1930 1935

Met Asn Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala
1940 1945 1950

Val Glu Gly Met Val Ala Glu Leu Ile Asn Cys Gln Ala Asp Val
1955 1960 1965

Asn Ala Val Asp Asp His Gly Lys Ser Ala Leu His Trp Ala Ala
1970 1975 1980

Ala Val Asn Asn Val Glu Ala Thr Leu Leu Leu Leu Lys Asn Gly

1985 1990 1995

Ala Asn Arg Asp Met Gln Asp Asn Lys Glu Glu Thr Pro Leu Phe
2000 2005 2010

Leu Ala Ala Arg Glu Gly Ser Tyr Glu Ala Ala Lys Ile Leu Leu
2015 2020 2025

Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu
2030 2035 2040

Pro Arg Asp Val Ala Arg Asp Arg Met His His Asp Ile Val Arg
2045 2050 2055

Leu Leu Asp Glu Tyr Asn Val Thr Pro Ser Pro Pro Gly Thr Val
2060 2065 2070

Leu Thr Ser Ala Leu Ser Pro Val Leu Cys Gly Pro Asn Arg Ser
2075 2080 2085

Phe Leu Ser Leu Lys His Thr Pro Met Gly Lys Lys Ala Arg Arg
2090 2095 2100

Pro Asn Thr Lys Ser Thr Met Pro Thr Ser Leu Pro Asn Leu Ala
2105 2110 2115

Lys Glu Ala Lys Asp Ala Lys Gly Ser Arg Arg Lys Lys Cys Leu
2120 2125 2130

Asn Glu Lys Val Gln Leu Ser Glu Ser Ser Val Thr Leu Ser Pro
2135 2140 2145

Val Asp Ser Leu Glu Ser Pro His Thr Tyr Val Ser Asp Ala Thr
2150 2155 2160

Ser Ser Pro Met Ile Thr Ser Pro Gly Ile Leu Gln Ala Ser Pro

2165 2170 2175

Thr Pro Leu Leu Ala Ala Ala Ala Pro Ala Ala Pro Val His Thr
2180 2185 2190

Gln His Ala Leu Ser Phe Ser Asn Leu His Asp Met Gln Pro Leu
2195 2200 2205

Ala Pro Gly Ala Ser Thr Val Leu Pro Ser Val Ser Gln Leu Leu
2210 2215 2220

Ser His His His Ile Ala Pro Pro Gly Ser Ser Ser Ala Gly Ser
2225 2230 2235

Leu Gly Arg Leu His Pro Val Pro Val Pro Ala Asp Trp Met Asn
2240 2245 2250

Arg Val Glu Met Asn Glu Thr Gln Tyr Ser Glu Met Phe Gly Met
2255 2260 2265

Val Leu Ala Pro Ala Glu Gly Ala His Pro Gly Ile Ala Ala Pro
2270 2275 2280

Gln Ser Arg Pro Pro Glu Gly Lys His Met Ser Thr Gln Arg Glu
2285 2290 2295

Pro Leu Pro Pro Ile Val Thr Phe Gln Leu Ile Pro Lys Arg Ser
2300 2305 2310

Ile Ala Gln Ala Ala Gly Ala Pro Gln Thr Gln Ser Ser Cys Pro
2315 2320 2325

Pro Ala Val Ala Gly Pro Leu Pro Ser Met Tyr Gln Ile Pro Glu
2330 2335 2340

Met Pro Arg Leu Pro Ser Val Ala Phe Pro Pro Thr Met Met Pro

2345 2350 2355

Gln Gln Glu Gly Gln Val Ala Gln Thr Ile Val Pro Thr Tyr His
2360 2365 2370

Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro Thr Pro Pro Ser Gln
2375 2380 2385

His Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg Thr Pro Ser His
2390 2395 2400

Gly Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr Pro Ser Pro
2405 2410 2415

Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser Ala Ser
2420 2425 2430

Asp Trp Ser Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Gly Gly
2435 2440 2445

Gly Gly Gln Arg Gly Pro Gly Thr His Met Ser Glu Pro Pro His
2450 2455 2460

Ser Asn Met Gln Val Tyr Ala
2465 2470

<210> 12
<211> 1964
<212> PRT
<213> Mus musculus

<400> 12

Met Gln Pro Gln Leu Leu Leu Leu Leu Leu Leu Pro Leu Asn Phe Pro
1 5 10 15

Val Ile Leu Thr Arg Glu Leu Leu Cys Gly Gly Ser Pro Glu Pro Cys
20 25 30

```
Ala Asn Gly Gly Thr Cys Leu Arg Leu Ser Gln Gly Gln Gly Ile Cys
        35                  40                  45

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

Cys Arg Asp Thr Gln Leu Cys Lys Asn Gly Gly Ser Cys Gln Ala Leu
65                  70                  75                  80

Leu Pro Thr Pro Pro Ser Ser Arg Ser Pro Thr Ser Pro Leu Thr Pro
                85                  90                  95

His Phe Ser Cys Thr Cys Pro Ser Gly Phe Thr Gly Asp Arg Cys Gln
            100                 105                 110

Thr His Leu Glu Glu Leu Cys Pro Pro Ser Phe Cys Ser Asn Gly Gly
        115                 120                 125

His Cys Tyr Val Gln Ala Ser Gly Arg Pro Gln Cys Ser Cys Glu Pro
    130                 135                 140

Gly Trp Thr Gly Glu Gln Cys Gln Leu Arg Asp Phe Cys Ser Ala Asn
145                 150                 155                 160

Pro Cys Ala Asn Gly Gly Val Cys Leu Ala Thr Tyr Pro Gln Ile Gln
                165                 170                 175

Cys Arg Cys Pro Pro Gly Phe Glu Gly His Thr Cys Glu Arg Asp Ile
            180                 185                 190

Asn Glu Cys Phe Leu Glu Pro Gly Pro Cys Pro Gln Gly Thr Ser Cys
        195                 200                 205

His Asn Thr Leu Gly Ser Tyr Gln Cys Leu Cys Pro Val Gly Gln Glu
    210                 215                 220
```

```
Gly Pro Gln Cys Lys Leu Arg Lys Gly Ala Cys Pro Pro Gly Ser Cys
225                 230                 235                 240

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

His Leu Cys Leu Cys Pro Pro Gly Phe Thr Gly Leu Asp Cys Glu Met
            260                 265                 270

Asn Pro Asp Asp Cys Val Arg His Gln Cys Gln Asn Gly Ala Thr Cys
        275                 280                 285

Leu Asp Gly Leu Asp Thr Tyr Thr Cys Leu Cys Pro Lys Thr Trp Lys
    290                 295                 300

Gly Trp Asp Cys Ser Glu Asp Ile Asp Glu Cys Glu Ala Arg Gly Pro
305                 310                 315                 320

Pro Arg Cys Arg Asn Gly Gly Thr Cys Gln Asn Thr Ala Gly Ser Phe
                325                 330                 335

His Cys Val Cys Val Ser Gly Trp Gly Gly Ala Gly Cys Glu Glu Asn
            340                 345                 350

Leu Asp Asp Cys Ala Ala Ala Thr Cys Ala Pro Gly Ser Thr Cys Ile
        355                 360                 365

Asp Arg Val Gly Ser Phe Ser Cys Leu Cys Pro Pro Gly Arg Thr Gly
    370                 375                 380

Leu Leu Cys His Leu Glu Asp Met Cys Leu Ser Gln Pro Cys His Val
385                 390                 395                 400

Asn Ala Gln Cys Ser Thr Asn Pro Leu Thr Gly Ser Thr Leu Cys Ile
                405                 410                 415
```

```
Cys Gln Pro Gly Tyr Ser Gly Ser Thr Cys His Gln Asp Leu Asp Glu
            420                 425                 430

Cys Gln Met Ala Gln Gln Gly Pro Ser Pro Cys Glu His Gly Gly Ser
        435                 440                 445

Cys Ile Asn Thr Pro Gly Ser Phe Asn Cys Leu Cys Leu Pro Gly Tyr
    450                 455                 460

Thr Gly Ser Arg Cys Glu Ala Asp His Asn Glu Cys Leu Ser Gln Pro
465                 470                 475                 480

Cys His Pro Gly Ser Thr Cys Leu Asp Leu Leu Ala Thr Phe His Cys
                485                 490                 495

Leu Cys Pro Pro Gly Leu Glu Gly Arg Leu Cys Glu Val Glu Val Asn
            500                 505                 510

Glu Cys Thr Ser Asn Pro Cys Leu Asn Gln Ala Ala Cys His Asp Leu
        515                 520                 525

Leu Asn Gly Phe Gln Cys Leu Cys Leu Pro Gly Phe Thr Gly Ala Arg
    530                 535                 540

Cys Glu Lys Asp Met Asp Glu Cys Ser Ser Thr Pro Cys Ala Asn Gly
545                 550                 555                 560

Gly Arg Cys Arg Asp Gln Pro Gly Ala Phe Tyr Cys Glu Cys Leu Pro
                565                 570                 575

Gly Phe Glu Gly Pro His Cys Glu Lys Glu Val Asp Glu Cys Leu Ser
            580                 585                 590

Asp Pro Cys Pro Val Gly Ala Ser Cys Leu Asp Leu Pro Gly Ala Phe
        595                 600                 605
```

```
Phe Cys Leu Cys Arg Pro Gly Phe Thr Gly Gln Leu Cys Glu Val Pro
    610                 615                 620

Leu Cys Thr Pro Asn Met Cys Gln Pro Gly Gln Gln Cys Gln Gly Gln
625                 630                 635                 640

Glu His Arg Ala Pro Cys Leu Cys Pro Asp Gly Ser Pro Gly Cys Val
                645                 650                 655

Pro Ala Glu Asp Asn Cys Pro Cys His His Gly His Cys Gln Arg Ser
            660                 665                 670

Leu Cys Val Cys Asp Glu Gly Trp Thr Gly Pro Glu Cys Glu Thr Glu
        675                 680                 685

Leu Gly Gly Cys Ile Ser Thr Pro Cys Ala His Gly Gly Thr Cys His
    690                 695                 700

Pro Gln Pro Ser Gly Tyr Asn Cys Thr Cys Pro Ala Gly Tyr Met Gly
705                 710                 715                 720

Leu Thr Cys Ser Glu Glu Val Thr Ala Cys His Ser Gly Pro Cys Leu
                725                 730                 735

Asn Gly Gly Ser Cys Ser Ile Arg Pro Glu Gly Tyr Ser Cys Thr Cys
            740                 745                 750

Leu Pro Ser His Thr Gly Arg His Cys Gln Thr Ala Val Asp His Cys
        755                 760                 765

Val Ser Ala Ser Cys Leu Asn Gly Gly Thr Cys Val Asn Lys Pro Gly
    770                 775                 780

Thr Phe Phe Cys Leu Cys Ala Thr Gly Phe Gln Gly Leu His Cys Glu
785                 790                 795                 800
```

```
Glu Lys Thr Asn Pro Ser Cys Ala Asp Ser Pro Cys Arg Asn Lys Ala
                805                 810                 815

Thr Cys Gln Asp Thr Pro Arg Gly Ala Arg Cys Leu Cys Ser Pro Gly
            820                 825                 830

Tyr Thr Gly Ser Ser Cys Gln Thr Leu Ile Asp Leu Cys Ala Arg Lys
        835                 840                 845

Pro Cys Pro His Thr Ala Arg Cys Leu Gln Ser Gly Pro Ser Phe Gln
    850                 855                 860

Cys Leu Cys Leu Gln Gly Trp Thr Gly Ala Leu Cys Asp Phe Pro Leu
865                 870                 875                 880

Ser Cys Gln Met Ala Ala Met Ser Gln Gly Ile Glu Ile Ser Gly Leu
                885                 890                 895

Cys Gln Asn Gly Gly Leu Cys Ile Asp Thr Gly Ser Ser Tyr Phe Cys
            900                 905                 910

Arg Cys Pro Pro Gly Phe Gln Gly Lys Leu Cys Gln Asp Asn Met Asn
        915                 920                 925

Pro Cys Glu Pro Asn Pro Cys His His Gly Ser Thr Cys Val Pro Gln
    930                 935                 940

Pro Ser Gly Tyr Val Cys Gln Cys Ala Pro Gly Tyr Glu Gly Gln Asn
945                 950                 955                 960

Cys Ser Lys Val Leu Glu Ala Cys Gln Ser Gln Pro Cys His Asn His
                965                 970                 975

Gly Thr Cys Thr Ser Arg Pro Gly Gly Phe His Cys Ala Cys Pro Pro
            980                 985                 990
```

```
Gly Phe Val Gly Leu Arg Cys Glu  Gly Asp Val Asp Glu  Cys Leu Asp
        995                 1000                1005


Arg Pro  Cys His Pro Ser Gly  Thr Ala Ala Cys His  Ser Leu Ala
    1010                1015                1020


Asn Ala  Phe Tyr Cys Gln Cys  Leu Pro Gly His Thr  Gly Gln Arg
    1025                1030                1035


Cys Glu  Val Glu Met Asp Leu  Cys Gln Ser Gln Pro  Cys Ser Asn
    1040                1045                1050


Gly Gly  Ser Cys Glu Ile Thr  Thr Gly Pro Pro Pro  Gly Phe Thr
    1055                1060                1065


Cys His  Cys Pro Lys Gly Phe  Glu Gly Pro Thr Cys  Ser His Lys
    1070                1075                1080


Ala Leu  Ser Cys Gly Ile His  His Cys His Asn Gly  Gly Leu Cys
    1085                1090                1095


Leu Pro  Ser Pro Lys Pro Gly  Ser Pro Pro Leu Cys  Ala Cys Leu
    1100                1105                1110


Ser Gly  Phe Gly Gly Pro Asp  Cys Leu Thr Pro Pro  Ala Pro Pro
    1115                1120                1125


Gly Cys  Gly Pro Pro Ser Pro  Cys Leu His Asn Gly  Thr Cys Thr
    1130                1135                1140


Glu Thr  Pro Gly Leu Gly Asn  Pro Gly Phe Gln Cys  Thr Cys Pro
    1145                1150                1155


Pro Asp  Ser Pro Gly Pro Arg  Cys Gln Arg Pro Gly  Ala Ser Gly
    1160                1165                1170
```

```
Cys Glu  Gly Arg Gly Gly Asp  Gly Thr Cys Asp Ala  Gly Cys Ser
    1175                 1180                 1185

Gly Pro  Gly Gly Asp Trp Asp  Gly Gly Asp Cys Ser  Leu Gly Val
    1190                 1195                 1200

Pro Asp  Pro Trp Lys Gly Cys  Pro Pro His Ser Gln  Cys Trp Leu
    1205                 1210                 1215

Leu Phe  Arg Asp Gly Arg Cys  His Pro Gln Cys Asp  Ser Glu Glu
    1220                 1225                 1230

Cys Leu  Phe Asp Gly Tyr Asp  Cys Glu Ile Pro Leu  Thr Cys Ile
    1235                 1240                 1245

Pro Ala  Tyr Asp Gln Tyr Cys  Arg Asp His Phe His  Asn Gly His
    1250                 1255                 1260

Cys Glu  Lys Gly Cys Asn Asn  Ala Glu Cys Gly Trp  Asp Gly Gly
    1265                 1270                 1275

Asp Cys  Arg Pro Glu Gly Glu  Asp Ser Glu Gly Arg  Pro Ser Leu
    1280                 1285                 1290

Ala Leu  Leu Val Val Leu Arg  Pro Pro Ala Leu Asp  Gln Gln Leu
    1295                 1300                 1305

Leu Ala  Leu Ala Arg Val Leu  Ser Leu Thr Leu Arg  Val Gly Leu
    1310                 1315                 1320

Trp Val  Arg Lys Asp Ser Glu  Gly Arg Asn Met Val  Phe Pro Tyr
    1325                 1330                 1335

Pro Gly  Thr Arg Ala Lys Glu  Glu Leu Ser Gly Ala  Arg Asp Ser
    1340                 1345                 1350
```

```
Ser Ser  Trp Glu Arg Gln Ala  Pro Pro Thr Gln Pro  Leu Gly Lys
    1355                1360                1365

Glu Thr  Glu Ser Leu Gly Ala  Gly Phe Val Val Val  Met Gly Val
    1370                1375                1380

Asp Leu  Ser Arg Cys Gly Pro  Glu His Pro Ala Ser  Arg Cys Pro
    1385                1390                1395

Trp Asp  Ser Gly Leu Leu Leu  Arg Phe Leu Ala Ala  Met Ala Ala
    1400                1405                1410

Val Gly  Ala Leu Glu Pro Leu  Leu Pro Gly Pro Leu  Leu Ala Ala
    1415                1420                1425

His Pro  Gln Ala Gly Thr Arg  Pro Pro Ala Asn Gln  Leu Pro Trp
    1430                1435                1440

Pro Ile  Leu Cys Ser Pro Val  Val Gly Val Leu Leu  Leu Ala Leu
    1445                1450                1455

Gly Ala  Leu Leu Val Leu Gln  Leu Ile Arg Arg Arg  Arg Arg Glu
    1460                1465                1470

His Gly  Ala Leu Trp Leu Pro  Pro Gly Phe Ile Arg  Arg Pro Gln
    1475                1480                1485

Ala Gln  Gln Ala Pro His Arg  Arg Arg Pro Pro Leu  Gly Glu Asp
    1490                1495                1500

Asn Ile  Gly Leu Lys Ala Leu  Lys Pro Glu Ala Glu  Val Asp Glu
    1505                1510                1515

Asp Gly  Val Ala Met Cys Ser  Gly Pro Glu Glu Gly  Glu Ala Glu
    1520                1525                1530
```

```
Glu Thr  Ala Ser Ala Ser Arg  Cys Gln Leu Trp Pro  Leu Asn Ser
    1535                1540                1545

Ser Cys  Gly Glu Leu Pro Gln  Ala Ala Met Leu Thr  Pro Pro Gln
    1550                1555                1560

Glu Cys  Glu Ser Glu Val Leu  Asp Val Asp Thr Cys  Gly Pro Asp
    1565                1570                1575

Gly Val  Thr Pro Leu Met Ser  Ala Val Phe Cys Gly  Gly Val Gln
    1580                1585                1590

Ser Thr  Thr Gly Ala Ser Pro  Gln Arg Leu Gly Leu  Gly Asn Leu
    1595                1600                1605

Glu Pro  Trp Glu Pro Leu Leu  Asp Arg Gly Ala Cys  Pro Gln Ala
    1610                1615                1620

His Thr  Val Gly Thr Gly Glu  Thr Pro Leu His Leu  Ala Ala Arg
    1625                1630                1635

Phe Ser  Arg Pro Thr Ala Ala  Arg Arg Leu Leu Glu  Ala Gly Ala
    1640                1645                1650

Asn Pro  Asn Gln Pro Asp Arg  Ala Gly Arg Thr Pro  Leu His Thr
    1655                1660                1665

Ala Val  Ala Ala Asp Ala Arg  Glu Val Cys Gln Leu  Leu Leu Ala
    1670                1675                1680

Ser Arg  Gln Thr Ser Val Asp  Ala Arg Thr Glu Asp  Gly Thr Thr
    1685                1690                1695

Pro Leu  Met Leu Ala Ala Arg  Leu Ala Val Glu Asp  Leu Val Glu
    1700                1705                1710
```

```
Glu Leu  Ile Ala Ala Arg Ala  Asp Val Gly Ala Arg  Asp Lys Arg
    1715                1720                1725

Gly Lys  Thr Ala Leu His Trp  Ala Ala Ala Val Asn  Asn Ala Arg
    1730                1735                1740

Ala Ala  Arg Ser Leu Leu Gln  Ala Gly Ala Asp Lys  Asp Ala Gln
    1745                1750                1755

Asp Ser  Arg Glu Gln Thr Pro  Leu Phe Leu Ala Ala  Arg Glu Gly
    1760                1765                1770

Ala Val  Glu Val Ala Gln Leu  Leu Leu Glu Leu Gly  Ala Ala Arg
    1775                1780                1785

Gly Leu  Arg Asp Gln Ala Gly  Leu Ala Pro Gly Asp  Val Ala Arg
    1790                1795                1800

Gln Arg  Ser His Trp Asp Leu  Leu Thr Leu Leu Glu  Gly Ala Gly
    1805                1810                1815

Pro Thr  Thr Gln Glu Ala Arg  Ala His Ala Arg Thr  Thr Pro Gly
    1820                1825                1830

Gly Gly  Ala Ala Ala Arg Cys  Arg Thr Leu Ser Ala  Gly Ala Arg
    1835                1840                1845

Pro Arg  Gly Gly Gly Ala Cys  Leu Gln Ala Arg Thr  Trp Ser Val
    1850                1855                1860

Asp Leu  Gly Ala Arg Gly Gly  Lys Val Tyr Ala Arg  Cys Arg Ser
    1865                1870                1875

Arg Ser  Gly Ser Cys Gly Gly  Pro Thr Thr Arg Gly  Arg Arg Phe
    1880                1885                1890
```

```
Ser Ala  Gly Ser Arg Gly Arg  Arg Gly Ala Arg Ala  Ser Gln Asp
    1895                 1900                 1905


Asp Trp  Pro Arg Asp Trp Val  Ala Leu Glu Ala Cys  Gly Ser Ala
    1910                 1915                 1920


Cys Ser  Ala Pro Ile Pro Pro  Pro Ser Leu Thr Pro  Ser Pro Glu
    1925                 1930                 1935


Arg Gly  Ser Pro Gln Val Ala  Trp Gly Leu Pro Val  His Gln Glu
    1940                 1945                 1950


Ile Pro  Leu Asn Ser Val Val  Arg Asn Leu Asn
    1955                 1960
```

<210> 13
<211> 2318
<212> PRT
<213> Mus musculus

<400> 13

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


Leu Pro Pro Pro Pro Pro Pro Met Arg Ala Leu Pro Leu Leu Leu Leu
            20                  25                  30


Leu Ala Gly Leu Gly Ala Ala Ala Pro Pro Cys Leu Asp Gly Ser Pro
        35                  40                  45


Cys Ala Asn Gly Gly Arg Cys Thr His Gln Gln Pro Ser Leu Glu Ala
    50                  55                  60


Ala Cys Leu Cys Leu Pro Gly Trp Val Gly Glu Arg Cys Gln Leu Glu
65                  70                  75                  80
```

```
Asp Pro Cys His Ser Gly Pro Cys Ala Gly Arg Gly Val Cys Gln Ser
                85                  90                  95

Ser Val Val Ala Gly Thr Ala Arg Phe Ser Cys Arg Cys Leu Arg Gly
            100                 105                 110

Phe Gln Gly Pro Asp Cys Ser Gln Pro Asp Pro Cys Val Ser Arg Pro
        115                 120                 125

Cys Val His Gly Ala Pro Cys Ser Val Gly Pro Asp Gly Arg Phe Ala
    130                 135                 140

Cys Ala Cys Pro Pro Gly Tyr Gln Gly Gln Ser Cys Gln Ser Asp Ile
145                 150                 155                 160

Asp Glu Cys Arg Ser Gly Thr Thr Cys Arg His Gly Gly Thr Cys Leu
                165                 170                 175

Asn Thr Pro Gly Ser Phe Arg Cys Gln Cys Pro Leu Gly Tyr Thr Gly
            180                 185                 190

Leu Leu Cys Glu Asn Pro Val Val Pro Cys Ala Pro Ser Pro Cys Arg
        195                 200                 205

Asn Gly Gly Thr Cys Arg Gln Ser Ser Asp Val Thr Tyr Asp Cys Ala
    210                 215                 220

Cys Leu Pro Gly Phe Glu Gly Gln Asn Cys Glu Val Asn Val Asp Asp
225                 230                 235                 240

Cys Pro Gly His Arg Cys Leu Asn Gly Gly Thr Cys Val Asp Gly Val
                245                 250                 255

Asn Thr Tyr Asn Cys Gln Cys Pro Pro Glu Trp Thr Gly Gln Phe Cys
            260                 265                 270
```

```
Thr Glu Asp Val Asp Glu Cys Gln Leu Gln Pro Asn Ala Cys His Asn
        275                 280                 285

Gly Gly Thr Cys Phe Asn Leu Leu Gly Gly His Ser Cys Val Cys Val
    290                 295                 300

Asn Gly Trp Thr Gly Glu Ser Cys Ser Gln Asn Ile Asp Asp Cys Ala
305                 310                 315                 320

Thr Ala Val Cys Phe His Gly Ala Thr Cys His Asp Arg Val Ala Ser
                325                 330                 335

Phe Tyr Cys Ala Cys Pro Met Gly Lys Thr Gly Leu Leu Cys His Leu
            340                 345                 350

Asp Asp Ala Cys Val Ser Asn Pro Cys His Glu Asp Ala Ile Cys Asp
        355                 360                 365

Thr Asn Pro Val Ser Gly Arg Ala Ile Cys Thr Cys Pro Pro Gly Phe
    370                 375                 380

Thr Gly Gly Ala Cys Asp Gln Asp Val Asp Glu Cys Ser Ile Gly Ala
385                 390                 395                 400

Asn Pro Cys Glu His Leu Gly Arg Cys Val Asn Thr Gln Gly Ser Phe
                405                 410                 415

Leu Cys Gln Cys Gly Arg Gly Tyr Thr Gly Pro Arg Cys Glu Thr Asp
            420                 425                 430

Val Asn Glu Cys Leu Ser Gly Pro Cys Arg Asn Gln Ala Thr Cys Leu
        435                 440                 445

Asp Arg Ile Gly Gln Phe Thr Cys Ile Cys Met Ala Gly Phe Thr Gly
    450                 455                 460
```

```
Thr Tyr Cys Glu Val Asp Ile Asp Glu Cys Gln Ser Ser Pro Cys Val
465                 470                 475                 480


Asn Gly Gly Val Cys Lys Asp Arg Val Asn Gly Phe Ser Cys Thr Cys
                485                 490                 495


Pro Ser Gly Phe Ser Gly Ser Met Cys Gln Leu Asp Val Asp Glu Cys
            500                 505                 510


Ala Ser Thr Pro Cys Arg Asn Gly Ala Lys Cys Val Asp Gln Pro Asp
        515                 520                 525


Gly Tyr Glu Cys Arg Cys Ala Glu Gly Phe Glu Gly Thr Leu Cys Glu
    530                 535                 540


Arg Asn Val Asp Asp Cys Ser Pro Asp Pro Cys His His Gly Arg Cys
545                 550                 555                 560


Val Asp Gly Ile Ala Ser Phe Ser Cys Ala Cys Ala Pro Gly Tyr Thr
                565                 570                 575


Gly Ile Arg Cys Glu Ser Gln Val Asp Glu Cys Arg Ser Gln Pro Cys
            580                 585                 590


Arg Tyr Gly Gly Lys Cys Leu Asp Leu Val Asp Lys Tyr Leu Cys Arg
        595                 600                 605


Cys Pro Pro Gly Thr Thr Gly Val Asn Cys Glu Val Asn Ile Asp Asp
    610                 615                 620


Cys Ala Ser Asn Pro Cys Thr Phe Gly Val Cys Arg Asp Gly Ile Asn
625                 630                 635                 640


Arg Tyr Asp Cys Val Cys Gln Pro Gly Phe Thr Gly Pro Leu Cys Asn
                645                 650                 655
```

```
Val Glu Ile Asn Glu Cys Ala Ser Ser Pro Cys Gly Glu Gly Gly Ser
            660                 665                 670

Cys Val Asp Gly Glu Asn Gly Phe His Cys Leu Cys Pro Pro Gly Ser
        675                 680                 685

Leu Pro Pro Leu Cys Leu Pro Ala Asn His Pro Cys Ala His Lys Pro
    690                 695                 700

Cys Ser His Gly Val Cys His Asp Ala Pro Gly Gly Phe Arg Cys Val
705                 710                 715                 720

Cys Glu Pro Gly Trp Ser Gly Pro Arg Cys Ser Gln Ser Leu Ala Pro
                725                 730                 735

Asp Ala Cys Glu Ser Gln Pro Cys Gln Ala Gly Gly Thr Cys Thr Ser
            740                 745                 750

Asp Gly Ile Gly Phe Arg Cys Thr Cys Ala Pro Gly Phe Gln Gly His
        755                 760                 765

Gln Cys Glu Val Leu Ser Pro Cys Thr Pro Ser Leu Cys Glu His Gly
    770                 775                 780

Gly His Cys Glu Ser Asp Pro Asp Arg Leu Thr Val Cys Ser Cys Pro
785                 790                 795                 800

Pro Gly Trp Gln Gly Pro Arg Cys Gln Gln Asp Val Asp Glu Cys Ala
                805                 810                 815

Gly Ala Ser Pro Cys Gly Pro His Gly Thr Cys Thr Asn Leu Pro Gly
            820                 825                 830

Asn Phe Arg Cys Ile Cys His Arg Gly Tyr Thr Gly Pro Phe Cys Asp
        835                 840                 845
```

```
Gln Asp Ile Asp Asp Cys Asp Pro Asn Pro Cys Leu His Gly Gly Ser
    850                 855                 860

Cys Gln Asp Gly Val Gly Ser Phe Ser Cys Ser Cys Leu Asp Gly Phe
865                 870                 875                 880

Ala Gly Pro Arg Cys Ala Arg Asp Val Asp Glu Cys Leu Ser Ser Pro
                885                 890                 895

Cys Gly Pro Gly Thr Cys Thr Asp His Val Ala Ser Phe Thr Cys Ala
            900                 905                 910

Cys Pro Pro Gly Tyr Gly Gly Phe His Cys Glu Ile Asp Leu Pro Asp
        915                 920                 925

Cys Ser Pro Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Val
    930                 935                 940

Ser Ser Phe Ser Cys Leu Cys Arg Pro Gly Tyr Thr Gly Thr His Cys
945                 950                 955                 960

Gln Tyr Glu Ala Asp Pro Cys Phe Ser Arg Pro Cys Leu His Gly Gly
                965                 970                 975

Ile Cys Asn Pro Thr His Pro Gly Phe Glu Cys Thr Cys Arg Glu Gly
            980                 985                 990

Phe Thr Gly Ser Gln Cys Gln Asn  Pro Val Asp Trp Cys  Ser Gln Ala
        995                 1000                1005

Pro Cys  Gln Asn Gly Gly Arg  Cys Val Gln Thr Gly  Ala Tyr Cys
    1010                1015                1020

Ile Cys  Pro Pro Gly Trp Ser  Gly Arg Leu Cys Asp  Ile Gln Ser
    1025                1030                1035
```

```
Leu Pro  Cys Thr Glu Ala Ala  Ala Gln Met Gly Val  Arg Leu Glu
    1040                1045                1050

Gln Leu  Cys Gln Glu Gly Gly  Lys Cys Ile Asp Lys  Gly Arg Ser
    1055                1060                1065

His Tyr  Cys Val Cys Pro Glu  Gly Arg Thr Gly Ser  His Cys Glu
    1070                1075                1080

His Glu  Val Asp Pro Cys Thr  Ala Gln Pro Cys Gln  His Gly Gly
    1085                1090                1095

Thr Cys  Arg Gly Tyr Met Gly  Gly Tyr Val Cys Glu  Cys Pro Ala
    1100                1105                1110

Gly Tyr  Ala Gly Asp Ser Cys  Glu Asp Asn Ile Asp  Glu Cys Ala
    1115                1120                1125

Ser Gln  Pro Cys Gln Asn Gly  Gly Ser Cys Ile Asp  Leu Val Ala
    1130                1135                1140

Arg Tyr  Leu Cys Ser Cys Pro  Pro Gly Thr Leu Gly  Val Leu Cys
    1145                1150                1155

Glu Ile  Asn Glu Asp Asp Cys  Asp Leu Gly Pro Ser  Leu Asp Ser
    1160                1165                1170

Gly Val  Gln Cys Leu His Asn  Gly Thr Cys Val Asp  Leu Val Gly
    1175                1180                1185

Gly Phe  Arg Cys Asn Cys Pro  Pro Gly Tyr Thr Gly  Leu His Cys
    1190                1195                1200

Glu Ala  Asp Ile Asn Glu Cys  Arg Pro Gly Ala Cys  His Ala Ala
    1205                1210                1215
```

```
His Thr  Arg Asp Cys Leu Gln  Asp Pro Gly Gly His  Phe Arg Cys
    1220                1225                1230


Val Cys  His Pro Gly Phe Thr  Gly Pro Arg Cys Gln  Ile Ala Leu
    1235                1240                1245


Ser Pro  Cys Glu Ser Gln Pro  Cys Gln His Gly Gly  Gln Cys Arg
    1250                1255                1260


His Ser  Leu Gly Arg Gly Gly  Gly Leu Thr Phe Thr  Cys His Cys
    1265                1270                1275


Val Pro  Pro Phe Trp Gly Leu  Arg Cys Glu Arg Val  Ala Arg Ser
    1280                1285                1290


Cys Arg  Glu Leu Gln Cys Pro  Val Gly Ile Pro Cys  Gln Gln Thr
    1295                1300                1305


Ala Arg  Gly Pro Arg Cys Ala  Cys Pro Pro Gly Leu  Ser Gly Pro
    1310                1315                1320


Ser Cys  Arg Val Ser Arg Ala  Ser Pro Ser Gly Ala  Thr Asn Ala
    1325                1330                1335


Ser Cys  Ala Ser Ala Pro Cys  Leu His Gly Gly Ser  Cys Leu Pro
    1340                1345                1350


Val Gln  Ser Val Pro Phe Phe  Arg Cys Val Cys Ala  Pro Gly Trp
    1355                1360                1365


Gly Gly  Pro Arg Cys Glu Thr  Pro Ser Ala Ala Pro  Glu Val Pro
    1370                1375                1380


Glu Glu  Pro Arg Cys Pro Arg  Ala Ala Cys Gln Ala  Lys Arg Gly
    1385                1390                1395
```

```
Asp Gln  Asn Cys Asp Arg Glu  Cys Asn Thr Pro Gly  Cys Gly Trp
    1400                1405                1410

Asp Gly  Gly Asp Cys Ser Leu  Asn Val Asp Asp Pro  Trp Arg Gln
    1415                1420                1425

Cys Glu  Ala Leu Gln Cys Trp  Arg Leu Phe Asn Asn  Ser Arg Cys
    1430                1435                1440

Asp Pro  Ala Cys Ser Ser Pro  Ala Cys Leu Tyr Asp  Asn Phe Asp
    1445                1450                1455

Cys Tyr  Ser Gly Gly Arg Asp  Arg Thr Cys Asn Pro  Val Tyr Glu
    1460                1465                1470

Lys Tyr  Cys Ala Asp His Phe  Ala Asp Gly Arg Cys  Asp Gln Gly
    1475                1480                1485

Cys Asn  Thr Glu Glu Cys Gly  Trp Asp Gly Leu Asp  Cys Ala Ser
    1490                1495                1500

Glu Val  Pro Ala Leu Leu Ala  Arg Gly Val Leu Val  Leu Thr Val
    1505                1510                1515

Leu Leu  Pro Pro Glu Glu Leu  Leu Arg Ser Ser Ala  Asp Phe Leu
    1520                1525                1530

Gln Arg  Leu Ser Ala Ile Leu  Arg Thr Ser Leu Arg  Phe Arg Leu
    1535                1540                1545

Asp Ala  Arg Gly Gln Ala Met  Val Phe Pro Tyr His  Arg Pro Ser
    1550                1555                1560

Pro Gly  Ser Glu Ser Arg Val  Arg Arg Glu Leu Gly  Pro Glu Val
    1565                1570                1575
```

```
Ile Gly  Ser Val Val Met Leu  Glu Ile Asp Asn Arg  Leu Cys Leu
    1580                1585                1590

Gln Ser  Ala Glu Asn Asp His  Cys Phe Pro Asp Ala  Gln Ser Ala
    1595                1600                1605

Ala Asp  Tyr Leu Gly Ala Leu  Ser Ala Val Glu Arg  Leu Asp Phe
    1610                1615                1620

Pro Tyr  Pro Leu Arg Asp Val  Arg Gly Glu Pro Leu  Glu Ala Pro
    1625                1630                1635

Glu Gln  Ser Val Pro Leu Leu  Pro Leu Leu Val Ala  Gly Ala Val
    1640                1645                1650

Phe Leu  Leu Ile Ile Phe Ile  Leu Gly Val Met Val  Ala Arg Arg
    1655                1660                1665

Lys Arg  Glu His Ser Thr Leu  Trp Phe Pro Glu Gly  Phe Ala Leu
    1670                1675                1680

His Lys  Asp Ile Ala Ala Gly  His Lys Gly Arg Arg  Glu Pro Val
    1685                1690                1695

Gly Gln  Asp Ala Leu Gly Met  Lys Asn Met Ala Lys  Gly Glu Ser
    1700                1705                1710

Leu Met  Gly Glu Val Val Thr  Asp Leu Asn Asp Ser  Glu Cys Pro
    1715                1720                1725

Glu Ala  Lys Arg Leu Lys Val  Glu Glu Pro Gly Met  Gly Ala Glu
    1730                1735                1740

Glu Pro  Glu Asp Cys Arg Gln  Trp Thr Gln His His  Leu Val Ala
    1745                1750                1755
```

```
Ala Asp  Ile Arg Val Ala Pro  Ala Thr Ala Leu Thr  Pro Pro Gln
    1760                1765                1770

Gly Asp  Ala Asp Ala Asp Gly  Val Asp Val Asn Val  Arg Gly Pro
    1775                1780                1785

Asp Gly  Phe Thr Pro Leu Met  Leu Ala Ser Phe Cys  Gly Gly Ala
    1790                1795                1800

Leu Glu  Pro Met Pro Ala Glu  Glu Asp Glu Ala Asp  Asp Thr Ser
    1805                1810                1815

Ala Ser  Ile Ile Ser Asp Leu  Ile Cys Gln Gly Ala  Gln Leu Gly
    1820                1825                1830

Ala Arg  Thr Asp Arg Thr Gly  Glu Thr Ala Leu His  Leu Ala Ala
    1835                1840                1845

Arg Tyr  Ala Arg Ala Asp Ala  Ala Lys Arg Leu Leu  Asp Ala Gly
    1850                1855                1860

Ala Asp  Thr Asn Ala Gln Asp  His Ser Gly Arg Thr  Pro Leu His
    1865                1870                1875

Thr Ala  Val Thr Ala Asp Ala  Gln Gly Val Phe Gln  Ile Leu Ile
    1880                1885                1890

Arg Asn  Arg Ser Thr Asp Leu  Asp Ala Arg Met Ala  Asp Gly Ser
    1895                1900                1905

Thr Ala  Leu Ile Leu Ala Ala  Arg Leu Ala Val Glu  Gly Met Val
    1910                1915                1920

Glu Glu  Leu Ile Ala Ser His  Ala Asp Val Asn Ala  Val Asp Glu
    1925                1930                1935
```

```
Leu Gly  Lys Ser Ala Leu His  Trp Ala Ala Ala Val  Asn Asn Val
    1940                1945                1950


Glu Ala  Thr Leu Ala Leu Leu  Lys Asn Gly Ala Asn  Lys Asp Met
    1955                1960                1965


Gln Asp  Ser Lys Glu Glu Thr  Pro Leu Phe Leu Ala  Ala Arg Glu
    1970                1975                1980


Gly Ser  Tyr Glu Ala Ala Lys  Leu Leu Leu Asp His  Leu Ala Asn
    1985                1990                1995


Arg Glu  Ile Thr Asp His Leu  Asp Arg Leu Pro Arg  Asp Val Ala
    2000                2005                2010


Gln Glu  Arg Leu His Gln Asp  Ile Val Arg Leu Leu  Asp Gln Pro
    2015                2020                2025


Ser Gly  Pro Arg Ser Pro Ser  Gly Pro His Gly Leu  Gly Pro Leu
    2030                2035                2040


Leu Cys  Pro Pro Gly Ala Phe  Leu Pro Gly Leu Lys  Ala Val Gln
    2045                2050                2055


Ser Gly  Thr Lys Lys Ser Arg  Arg Pro Pro Gly Lys  Thr Gly Leu
    2060                2065                2070


Gly Pro  Gln Gly Thr Arg Gly  Arg Gly Lys Lys Leu  Thr Leu Ala
    2075                2080                2085


Cys Pro  Gly Pro Leu Ala Asp  Ser Ser Val Thr Leu  Ser Pro Val
    2090                2095                2100


Asp Ser  Leu Asp Ser Pro Arg  Pro Phe Ser Gly Pro  Pro Ala Ser
    2105                2110                2115
```

```
Pro Gly  Gly Phe Pro Leu Glu  Gly Pro Tyr Ala Thr  Thr Ala Thr
    2120                2125                2130

Ala Val  Ser Leu Ala Gln Leu  Gly Ala Ser Arg Ala  Gly Pro Leu
    2135                2140                2145

Gly Arg  Gln Pro Pro Gly Gly  Cys Val Leu Ser Phe  Gly Leu Leu
    2150                2155                2160

Asn Pro  Val Ala Val Pro Leu  Asp Trp Ala Arg Leu  Pro Pro Pro
    2165                2170                2175

Ala Pro  Pro Gly Pro Ser Phe  Leu Leu Pro Leu Ala  Pro Gly Pro
    2180                2185                2190

Gln Leu  Leu Asn Pro Gly Ala  Pro Val Ser Pro Gln  Glu Arg Pro
    2195                2200                2205

Pro Pro  Tyr Leu Ala Ala Pro  Gly His Gly Glu Glu  Tyr Pro Ala
    2210                2215                2220

Ala Gly  Thr Arg Ser Ser Pro  Thr Lys Ala Arg Phe  Leu Arg Val
    2225                2230                2235

Pro Ser  Glu His Pro Tyr Leu  Thr Pro Ser Pro Glu  Ser Pro Glu
    2240                2245                2250

His Trp  Ala Ser Pro Ser Pro  Pro Ser Leu Ser Asp  Trp Ser Asp
    2255                2260                2265

Ser Thr  Pro Ser Pro Ala Thr  Ala Thr Asn Ala Thr  Ala Ser Gly
    2270                2275                2280

Ala Leu  Pro Ala Gln Pro His  Pro Ile Ser Val Pro  Ser Leu Pro
    2285                2290                2295
```

```
Gln Ser  Gln Thr Gln Leu Gly  Pro Gln Pro Glu Val  Thr Pro Lys
    2300                2305                2310


Arg Gln  Val Met Ala
    2315
```

<210> 14
<211> 2471
<212> PRT
<213> Rattus norvegicus

<400> 14

```
Met Pro Ala Leu Arg Pro Ala Ala Leu Arg Ala Leu Leu Trp Leu Trp
1               5                   10                  15


Leu Cys Gly Ala Gly Pro Ala His Ala Leu Gln Cys Arg Gly Gly Gln
            20                  25                  30


Glu Pro Cys Val Asn Glu Gly Thr Cys Val Thr Tyr His Asn Gly Thr
        35                  40                  45


Gly Tyr Cys Arg Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
    50                  55                  60


Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65                  70                  75                  80


Thr Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Pro Gly Phe
                85                  90                  95


Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
            100                 105                 110


Arg Pro Cys Gln Asn Gly Gly Thr Cys His Met Leu Ser Trp Asp Thr
        115                 120                 125
```

```
Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Gln Cys Gln Trp
    130                 135                 140

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

Ser Val Ala Asn Gln Phe Ser Cys Arg Cys Pro Ala Gly Ile Thr Gly
                165                 170                 175

Gln Lys Cys Asp Ala Asp Ile Asn Glu Cys Asp Ile Pro Gly Arg Cys
            180                 185                 190

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

Cys Pro Gln Arg Phe Thr Gly Gln His Cys Asp Ser Pro Tyr Val Pro
    210                 215                 220

Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
225                 230                 235                 240

Asp Phe Thr Ser Glu Cys His Cys Leu Pro Gly Phe Glu Gly Ser Asn
                245                 250                 255

Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Lys Cys Gln Asn Gly
            260                 265                 270

Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
        275                 280                 285

Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
    290                 295                 300

Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Thr Asn Arg Asn Gly
305                 310                 315                 320
```

```
Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
                325                 330                 335

Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
            340                 345                 350

Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Leu Cys Pro Glu Gly Lys
        355                 360                 365

Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys
    370                 375                 380

His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile
385                 390                 395                 400

Cys Thr Cys Pro Gln Ala Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val
                405                 410                 415

Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys
            420                 425                 430

Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr
        435                 440                 445

Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro
    450                 455                 460

Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys
465                 470                 475                 480

Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Val Asn
                485                 490                 495

Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys
            500                 505                 510
```

```
Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val
        515                 520                 525


Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly
    530                 535                 540


Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr
545                 550                 555                 560


Gly Phe Thr Gly Thr Leu Cys Asp Glu Asn Ile Asp Asn Cys Asp Pro
                565                 570                 575


Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr
            580                 585                 590


Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile
        595                 600                 605


Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp
    610                 615                 620


Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Leu
625                 630                 635                 640


Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Leu His
                645                 650                 655


Gly Ala Cys Val Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro
            660                 665                 670


Gly Phe Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser
        675                 680                 685


Asn Pro Cys Arg Lys Asp Ala Thr Cys Ile Asn Asp Val Asn Gly Phe
    690                 695                 700
```

```
Arg Cys Met Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln
705                 710                 715                 720


Val Asn Glu Cys Leu Ser Ser Pro Cys Ile His Gly Asn Cys Thr Gly
                725                 730                 735


Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Ile
            740                 745                 750


Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn
        755                 760                 765


Gly Gly Thr Cys Asn Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys
    770                 775                 780


Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala
785                 790                 795                 800


Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Leu Asp Asp Val Ser Gly
                805                 810                 815


Tyr Thr Cys His Cys Met Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr
            820                 825                 830


Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys
        835                 840                 845


Lys Glu Ala Pro Asn Phe Glu Ser Phe Thr Cys Leu Cys Ala Pro Gly
    850                 855                 860


Trp Gln Gly Gln Arg Cys Thr Val Asp Val Asp Glu Cys Val Ser Lys
865                 870                 875                 880


Pro Cys Met Asn Asn Gly Ile Cys His Asn Thr Gln Gly Ser Tyr Met
                885                 890                 895
```

```
Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
            900                 905                 910

Asn Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Val Asp
        915                 920                 925

Lys Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Val Gly Asp
    930                 935                 940

Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
945                 950                 955                 960

Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Thr Cys Pro
                965                 970                 975

Ala Gly Phe His Gly Val His Cys Glu Asn Asn Ile Asp Glu Cys Thr
            980                 985                 990

Glu Ser Ser Cys Phe Asn Gly Gly  Thr Cys Val Asp Gly  Ile Asn Ser
        995                 1000                1005

Phe Ser  Cys Leu Cys Pro Val  Gly Phe Thr Gly Pro  Phe Cys Leu
    1010                1015                1020

His Asp  Ile Asn Glu Cys Ser  Ser Asn Pro Cys Leu  Asn Ser Gly
    1025                1030                1035

Thr Cys  Val Asp Gly Leu Gly  Thr Tyr Arg Cys Thr  Cys Pro Leu
    1040                1045                1050

Gly Tyr  Thr Gly Lys Asn Cys  Gln Thr Leu Val Asn  Leu Cys Ser
    1055                1060                1065

Pro Ser  Pro Cys Lys Asn Lys  Gly Thr Cys Ala Gln  Glu Lys Ala
    1070                1075                1080
```

```
Arg Pro  Arg Cys Leu Cys Pro  Pro Gly Trp Asp Gly  Ala Tyr Cys
    1085                1090                1095

Asp Val  Leu Asn Val Ser Cys  Lys Ala Ala Ala Leu  Gln Lys Gly
    1100                1105                1110

Val Pro  Val Glu His Leu Cys  Gln His Ser Gly Ile  Cys Ile Asn
    1115                1120                1125

Ala Gly  Asn Thr His His Cys  Gln Cys Pro Leu Gly  Tyr Thr Gly
    1130                1135                1140

Ser Tyr  Cys Glu Glu Gln Leu  Asp Glu Cys Ala Ser  Asn Pro Cys
    1145                1150                1155

Gln His  Gly Ala Thr Cys Ser  Asp Phe Ile Gly Gly  Tyr Arg Cys
    1160                1165                1170

Glu Cys  Val Pro Gly Tyr Gln  Gly Val Asn Cys Glu  Tyr Glu Val
    1175                1180                1185

Asp Glu  Cys Gln Asn Gln Pro  Cys Gln Asn Gly Gly  Thr Cys Ile
    1190                1195                1200

Asp Leu  Val Asn His Phe Lys  Cys Ser Cys Pro Pro  Gly Thr Arg
    1205                1210                1215

Gly Leu  Leu Cys Glu Glu Asn  Ile Asp Asp Cys Ala  Gly Ala Pro
    1220                1225                1230

His Cys  Leu Asn Gly Gly Gln  Cys Val Asp Arg Ile  Gly Gly Tyr
    1235                1240                1245

Ser Cys  Arg Cys Leu Pro Gly  Phe Ala Gly Glu Arg  Cys Glu Gly
    1250                1255                1260
```

```
Asp Ile  Asn Glu Cys Leu Ser  Asn Pro Cys Ser Ser  Glu Gly Ser
    1265                1270                1275

Leu Asp  Cys Ile Gln Leu Lys  Asn Asn Tyr Gln Cys  Val Cys Arg
    1280                1285                1290

Ser Ala  Phe Thr Gly Arg His  Cys Glu Thr Phe Leu  Asp Val Cys
    1295                1300                1305

Pro Gln  Lys Pro Cys Leu Asn  Gly Gly Thr Cys Ala  Val Ala Ser
    1310                1315                1320

Asn Val  Pro Asp Gly Phe Ile  Cys Arg Cys Pro Pro  Gly Phe Ser
    1325                1330                1335

Gly Ala  Arg Cys Gln Ser Ser  Cys Gly Gln Val Lys  Cys Arg Arg
    1340                1345                1350

Gly Glu  Gln Cys Val His Thr  Ala Ser Gly Pro His  Cys Phe Cys
    1355                1360                1365

Pro Asn  His Lys Asp Cys Glu  Ser Gly Cys Ala Ser  Asn Pro Cys
    1370                1375                1380

Gln His  Gly Gly Thr Cys Tyr  Pro Gln Arg Gln Pro  Pro Tyr Tyr
    1385                1390                1395

Ser Cys  Arg Cys Ser Pro Pro  Phe Trp Gly Ser His  Cys Glu Ser
    1400                1405                1410

Tyr Thr  Ala Pro Thr Ser Thr  Pro Pro Ala Thr Cys  Leu Ser Gln
    1415                1420                1425

Tyr Cys  Ala Asp Lys Ala Arg  Asp Gly Ile Cys Asp  Glu Ala Cys
    1430                1435                1440
```

```
Asn Ser  His Ala Cys Gln Trp  Asp Gly Gly Asp Cys  Ser Leu Thr
    1445                 1450                 1455


Met Glu  Asp Pro Trp Ala Asn  Cys Thr Ser Ser Leu  Arg Cys Trp
    1460                 1465                 1470


Glu Tyr  Ile Asn Asn Gln Cys  Asp Glu Leu Cys Asn  Thr Ala Glu
    1475                 1480                 1485


Cys Leu  Phe Asp Asn Phe Glu  Cys Gln Arg Asn Ser  Lys Thr Cys
    1490                 1495                 1500


Lys Tyr  Asp Lys Tyr Cys Ala  Asp His Phe Lys Asp  Asn His Cys
    1505                 1510                 1515


Asp Lys  Gly Cys Asn Asn Glu  Glu Cys Gly Trp Asp  Gly Leu Asp
    1520                 1525                 1530


Cys Ala  Ala Asp Gln Pro Glu  Asn Leu Ala Glu Gly  Ile Leu Val
    1535                 1540                 1545


Ile Val  Val Leu Leu Pro Pro  Glu Gln Leu Leu Gln  Asp Ser Arg
    1550                 1555                 1560


Ser Phe  Leu Arg Ala Leu Gly  Thr Leu Leu His Thr  Asn Leu Arg
    1565                 1570                 1575


Ile Lys  Gln Asp Ser Gln Gly  Ala Leu Met Val Tyr  Pro Tyr Tyr
    1580                 1585                 1590


Gly Glu  Lys Ser Ala Ala Met  Lys Lys Gln Lys Val  Ala Arg Arg
    1595                 1600                 1605


Ser Leu  Pro Asp Glu Gln Glu  Gln Glu Ile Ile Gly  Ser Lys Val
    1610                 1615                 1620
```

```
Phe Leu  Glu Ile Asp Asn Arg  Gln Cys Val Gln Asp  Ser Asp Gln
    1625                 1630                 1635

Cys Phe  Lys Asn Thr Asp Ala  Ala Ala Ala Leu Leu  Ala Ser His
    1640                 1645                 1650

Ala Ile  Gln Gly Thr Leu Ser  Tyr Pro Leu Val Ser  Val Val Ser
    1655                 1660                 1665

Glu Ser  Glu Asp Pro Arg Asn  Thr Pro Leu Leu Tyr  Leu Leu Ala
    1670                 1675                 1680

Val Ala  Val Val Ile Ile Leu  Phe Leu Ile Leu Leu  Gly Val Ile
    1685                 1690                 1695

Met Ala  Lys Arg Lys Arg Lys  His Gly Phe Leu Trp  Leu Pro Glu
    1700                 1705                 1710

Gly Phe  Thr Leu Arg Arg Asp  Ser Ser Asn His Lys  Arg Arg Glu
    1715                 1720                 1725

Pro Val  Gly Gln Asp Ala Val  Gly Leu Lys Asn Leu  Ser Val Gln
    1730                 1735                 1740

Val Ser  Glu Ala Asn Leu Ile  Gly Ser Thr Thr Ser  Glu His Trp
    1745                 1750                 1755

Gly Asp  Asp Glu Gly Pro Gln  Pro Lys Lys Ala Lys  Ala Glu Asp
    1760                 1765                 1770

Asp Glu  Ala Leu Leu Ser Glu  Asp Asp Pro Val Asp  Arg Arg Pro
    1775                 1780                 1785

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

```
Ser Leu  Ala Leu Thr Pro Pro  Gln Ala Glu Gln Glu  Val Asp Val
    1805                 1810                 1815

Leu Asp  Val Asn Val Arg Gly  Pro Asp Gly Cys Thr  Pro Leu Met
    1820                 1825                 1830

Leu Ala  Ser Leu Arg Gly Gly  Ser Ser Asp Leu Ser  Asp Glu Asp
    1835                 1840                 1845

Glu Asp  Ala Glu Asp Ser Ser  Ala Asn Ile Ile Thr  Asp Leu Val
    1850                 1855                 1860

Tyr Gln  Gly Ala Ser Leu Gln  Ala Gln Thr Asp Arg  Thr Gly Glu
    1865                 1870                 1875

Met Ala  Leu His Leu Ala Ala  Arg Tyr Ser Arg Ala  Asp Ala Ala
    1880                 1885                 1890

Lys Arg  Leu Leu Asp Ala Gly  Ala Asp Ala Asn Ala  Gln Asp Asn
    1895                 1900                 1905

Met Gly  Arg Cys Pro Leu His  Ala Ala Val Ala Ala  Asp Ala Gln
    1910                 1915                 1920

Gly Val  Phe Gln Ile Leu Ile  Arg Asn Arg Val Thr  Asp Leu Asp
    1925                 1930                 1935

Ala Arg  Met Asn Asp Gly Thr  Thr Pro Leu Ile Leu  Ala Ala Arg
    1940                 1945                 1950

Leu Ala  Val Glu Gly Met Val  Ala Glu Leu Ile Asn  Cys Gln Ala
    1955                 1960                 1965

Asp Val  Asn Ala Val Asp Asp  His Gly Lys Ser Ala  Leu His Trp
    1970                 1975                 1980
```

```
Ala Ala  Ala Val Asn Asn Val  Glu Ala Thr Leu Leu  Leu Leu Lys
    1985                1990                1995

Asn Gly  Ala Asn Arg Asp Met  Gln Asp Asn Lys Glu  Glu Thr Pro
    2000                2005                2010

Leu Phe  Leu Ala Ala Arg Glu  Gly Ser Tyr Glu Ala  Ala Lys Ile
    2015                2020                2025

Leu Leu  Asp His Phe Ala Asn  Arg Asp Ile Thr Asp  His Met Asp
    2030                2035                2040

Arg Leu  Pro Arg Asp Val Ala  Arg Asp Arg Met His  His Asp Ile
    2045                2050                2055

Val Arg  Leu Leu Asp Glu Tyr  Asn Val Thr Pro Ser  Pro Pro Gly
    2060                2065                2070

Thr Val  Leu Thr Ser Ala Leu  Ser Pro Val Leu Cys  Gly Pro Asn
    2075                2080                2085

Arg Ser  Phe Leu Ser Leu Lys  His Thr Pro Met Gly  Lys Lys Ala
    2090                2095                2100

Arg Arg  Pro Asn Thr Lys Ser  Thr Met Pro Thr Ser  Leu Pro Asn
    2105                2110                2115

Leu Ala  Lys Glu Ala Lys Asp  Val Lys Gly Ser Arg  Arg Lys Lys
    2120                2125                2130

Cys Leu  Asn Glu Lys Val Gln  Leu Ser Glu Ser Ser  Val Thr Leu
    2135                2140                2145

Ser Pro  Val Asp Ser Leu Glu  Ser Pro His Thr Tyr  Val Ser Asp
    2150                2155                2160
```

```
Ala Thr  Ser Ser Pro Met Ile  Thr Ser Pro Gly Ile  Leu Gln Ala
    2165                2170                2175

Ser Pro  Thr Pro Leu Leu Ala  Ala Ala Pro Ala Ala  Pro Val His
    2180                2185                2190

Ala Gln  His Ala Leu Ser Phe  Ser Asn Leu His Glu  Met Gln Pro
    2195                2200                2205

Leu Arg  Pro Gly Ala Ser Thr  Val Leu Pro Ser Val  Ser Gln Leu
    2210                2215                2220

Leu Ser  His His His Ile Val  Pro Pro Gly Ser Gly  Ser Ala Gly
    2225                2230                2235

Ser Leu  Gly Arg Leu His Ser  Val Pro Val Pro Ser  Asp Trp Met
    2240                2245                2250

Asn Arg  Val Glu Met Ser Glu  Thr Gln Tyr Ser Glu  Met Phe Gly
    2255                2260                2265

Met Val  Leu Ala Pro Ala Glu  Gly Thr His Pro Gly  Met Ala Ala
    2270                2275                2280

Pro Gln  Ser Arg Ala Pro Glu  Gly Lys Pro Ile Pro  Thr Gln Arg
    2285                2290                2295

Glu Pro  Leu Pro Pro Ile Val  Thr Phe Gln Leu Ile  Pro Lys Gly
    2300                2305                2310

Ser Leu  Ala Gln Ala Ala Gly  Ala Pro Gln Thr Gln  Ser Gly Cys
    2315                2320                2325

Pro Pro  Ala Val Ala Gly Pro  Leu Pro Ser Met Tyr  Gln Ile Pro
    2330                2335                2340
```

```
Glu Met  Ala Arg Leu Pro Ser  Val Ala Phe Pro Pro  Thr Met Met
    2345                2350                2355


Pro Gln  Gln Glu Gly Gln Val  Ala Gln Thr Ile Val  Pro Thr Tyr
    2360                2365                2370


His Pro  Phe Pro Ala Ser Val  Gly Lys Tyr Pro Thr  Pro Pro Ser
    2375                2380                2385


Gln His  Ser Tyr Ala Ser Ser  Asn Ala Ala Glu Arg  Thr Pro Asn
    2390                2395                2400


His Gly  Gly His Leu Gln Gly  Glu His Pro Tyr Leu  Thr Pro Ser
    2405                2410                2415


Pro Glu  Ser Pro Asp Gln Trp  Ser Ser Ser Ser Pro  His Ser Ala
    2420                2425                2430


Ser Asp  Trp Ser Asp Val Thr  Thr Ser Pro Thr Pro  Gly Gly Gly
    2435                2440                2445


Gly Gly  Gly Gln Arg Gly Pro  Gly Thr His Met Ser  Glu Pro Pro
    2450                2455                2460


His Ser  Asn Met Gln Val Tyr  Ala
    2465                2470


<210>  15
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<212>  PRT
<213>  Rattus norvegicus

<400>  15

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


Leu Pro Pro Pro Pro Pro Pro Met Arg Ala Leu Pro Leu Leu Leu Leu
```

```
            20                  25                  30

Leu Leu Ala Gly Leu Gly Ala Ala Ala Pro Pro Cys Leu Asp Gly Ser
        35                  40                  45

Pro Cys Ala Asn Gly Gly Arg Cys Thr His Gln Gln Pro Ser Arg Glu
    50                  55                  60

Ala Ala Cys Leu Cys Leu Pro Gly Trp Val Gly Glu Arg Cys Gln Leu
65                  70                  75                  80

Glu Asp Pro Cys His Ser Gly Pro Cys Ala Gly Arg Gly Val Cys Gln
                85                  90                  95

Ser Ser Val Val Ala Gly Val Ala Arg Phe Ser Cys Arg Cys Leu Arg
            100                 105                 110

Gly Phe Arg Gly Pro Asp Cys Ser Leu Pro Asp Pro Cys Phe Ser Ser
        115                 120                 125

Pro Cys Ala His Gly Ala Pro Cys Ser Val Gly Ser Asp Gly Arg Tyr
    130                 135                 140

Ala Cys Ala Cys Pro Pro Gly Tyr Gln Gly Arg Asn Cys Arg Ser Asp
145                 150                 155                 160

Ile Asp Glu Cys Arg Ala Gly Ala Ser Cys Arg His Gly Gly Thr Cys
                165                 170                 175

Ile Asn Thr Pro Gly Ser Phe His Cys Leu Cys Pro Leu Gly Tyr Thr
            180                 185                 190

Gly Leu Leu Cys Glu Asn Pro Ile Val Pro Cys Ala Pro Ser Pro Cys
        195                 200                 205

Arg Asn Gly Gly Thr Cys Arg Gln Ser Ser Asp Val Thr Tyr Asp Cys
```

```
    210                 215                 220

Ala Cys Leu Pro Gly Phe Glu Gly Gln Asn Cys Glu Val Asn Val Asp
225                 230                 235                 240

Asp Cys Pro Gly His Arg Cys Leu Asn Gly Gly Thr Cys Val Asp Gly
                245                 250                 255

Val Asn Thr Tyr Asn Cys Gln Cys Pro Pro Glu Trp Thr Gly Gln Phe
            260                 265                 270

Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Gln Pro Asn Ala Cys His
        275                 280                 285

Asn Gly Gly Thr Cys Phe Asn Leu Leu Gly Gly His Ser Cys Val Cys
    290                 295                 300

Val Asn Gly Trp Thr Gly Glu Ser Cys Ser Gln Asn Ile Asp Asp Cys
305                 310                 315                 320

Ala Thr Ala Val Cys Phe His Gly Ala Thr Cys His Asp Arg Val Ala
                325                 330                 335

Ser Phe Tyr Cys Ala Cys Pro Met Gly Lys Thr Gly Leu Leu Cys His
            340                 345                 350

Leu Asp Asp Ala Cys Val Ser Asn Pro Cys His Glu Asp Ala Ile Cys
        355                 360                 365

Asp Thr Asn Pro Val Ser Gly Arg Ala Ile Cys Thr Cys Pro Pro Gly
    370                 375                 380

Phe Thr Gly Gly Ala Cys Asp Gln Asp Val Asp Glu Cys Ser Ile Gly
385                 390                 395                 400

Ala Asn Pro Cys Glu His Leu Gly Arg Cys Val Asn Thr Gln Gly Ser
```

405 410 415

Phe Leu Cys Gln Cys Gly Arg Gly Tyr Thr Gly Pro Arg Cys Glu Thr
420 425 430

Asp Val Asn Glu Cys Leu Ser Gly Pro Cys Arg Asn Gln Ala Thr Cys
435 440 445

Leu Asp Arg Ile Gly Gln Phe Thr Cys Ile Cys Met Ala Gly Phe Thr
450 455 460

Gly Thr Phe Cys Glu Val Asp Ile Asp Glu Cys Gln Ser Ser Pro Cys
465 470 475 480

Val Asn Gly Gly Val Cys Lys Asp Arg Val Asn Gly Phe Ser Cys Thr
485 490 495

Cys Pro Ser Gly Phe Ser Gly Ser Thr Cys Gln Leu Asp Val Asp Glu
500 505 510

Cys Ala Ser Thr Pro Cys Arg Asn Gly Ala Lys Cys Val Asp Gln Pro
515 520 525

Asp Gly Tyr Glu Cys Arg Cys Ala Glu Gly Phe Glu Gly Thr Leu Cys
530 535 540

Glu Arg Asn Val Asp Asp Cys Ser Pro Asp Pro Cys His His Gly Arg
545 550 555 560

Cys Val Asp Gly Ile Ala Ser Phe Ser Cys Ala Cys Ala Pro Gly Tyr
565 570 575

Thr Gly Ile Arg Cys Glu Ser Gln Val Asp Glu Cys Arg Ser Gln Pro
580 585 590

Cys Arg Tyr Gly Gly Lys Cys Leu Asp Leu Val Asp Lys Tyr Leu Cys

595 600 605

Arg Cys Pro Pro Gly Thr Thr Gly Val Asn Cys Glu Val Asn Ile Asp
610 615 620

Asp Cys Ala Ser Asn Pro Cys Thr Phe Gly Val Cys Arg Asp Gly Ile
625 630 635 640

Asn Arg Tyr Asp Cys Val Cys Gln Pro Gly Phe Thr Gly Pro Leu Cys
645 650 655

Asn Val Glu Ile Asn Glu Cys Ala Ser Ser Pro Cys Gly Glu Gly Gly
660 665 670

Ser Cys Val Asp Gly Glu Asn Gly Phe His Cys Leu Cys Pro Pro Gly
675 680 685

Ser Leu Pro Pro Leu Cys Leu Pro Ala Asn His Pro Cys Ala His Lys
690 695 700

Pro Cys Ser His Gly Val Cys His Asp Ala Pro Gly Gly Phe Gln Cys
705 710 715 720

Val Cys Asp Pro Gly Trp Ser Gly Pro Arg Cys Ser Gln Ser Leu Ala
725 730 735

Pro Asp Ala Cys Glu Ser Gln Pro Cys Gln Ala Gly Gly Thr Cys Thr
740 745 750

Ser Asp Gly Ile Gly Phe His Cys Thr Cys Ala Pro Gly Phe Gln Gly
755 760 765

His Gln Cys Glu Val Leu Ser Pro Cys Thr Pro Ser Leu Cys Glu His
770 775 780

Gly Gly His Cys Glu Ser Asp Pro Asp Gln Leu Thr Val Cys Ser Cys

785 790 795 800

Pro Pro Gly Trp Gln Gly Pro Arg Cys Gln Gln Asp Val Asp Glu Cys
805 810 815

Ala Gly Ala Ser Pro Cys Gly Pro His Gly Thr Cys Thr Asn Leu Pro
820 825 830

Gly Ser Phe Arg Cys Ile Cys His Gly Gly Tyr Thr Gly Pro Phe Cys
835 840 845

Asp Gln Asp Ile Asp Asp Cys Asp Pro Asn Pro Cys Leu Asn Gly Gly
850 855 860

Ser Cys Gln Asp Gly Val Gly Ser Phe Ser Cys Ser Cys Leu Ser Gly
865 870 875 880

Phe Ala Gly Pro Arg Cys Ala Arg Asp Val Asp Glu Cys Leu Ser Ser
885 890 895

Pro Cys Gly Pro Gly Thr Cys Thr Asp His Val Ala Ser Phe Thr Cys
900 905 910

Thr Cys Pro Pro Gly Tyr Gly Gly Phe His Cys Glu Thr Asp Leu Leu
915 920 925

Asp Cys Ser Pro Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly
930 935 940

Val Asn Ser Phe Ser Cys Leu Cys Arg Pro Gly Tyr Thr Gly Thr His
945 950 955 960

Cys Gln Tyr Lys Val Asp Pro Cys Phe Ser Arg Pro Cys Leu His Gly
965 970 975

Gly Ile Cys Asn Pro Thr His Ser Gly Phe Glu Cys Thr Cys Arg Glu

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            980                 985                 990

Gly Phe Thr Gly Asn Gln Cys Gln  Asn Pro Val Asp Trp  Cys Ser Gln
        995                1000                1005

Ala Pro  Cys Gln Asn Gly Gly  Arg Cys Val Gln Thr  Gly Ala Tyr
    1010                1015                1020

Cys Ile  Cys Pro Pro Glu Trp  Ser Gly Pro Leu Cys  Asp Ile Pro
    1025                1030                1035

Ser Leu  Pro Cys Thr Glu Ala  Ala Ala His Met Gly  Val Arg Leu
    1040                1045                1050

Glu Gln  Leu Cys Gln Ala Gly  Gly Gln Cys Ile Asp  Lys Asp His
    1055                1060                1065

Ser His  Tyr Cys Val Cys Pro  Glu Gly Arg Met Gly  Ser His Cys
    1070                1075                1080

Glu Gln  Glu Val Asp Pro Cys  Thr Ala Gln Pro Cys  Gln His Gly
    1085                1090                1095

Gly Thr  Cys Arg Gly Tyr Met  Gly Gly Tyr Val Cys  Glu Cys Pro
    1100                1105                1110

Thr Gly  Tyr Ser Gly Asp Ser  Cys Glu Asp Asp Val  Asp Glu Cys
    1115                1120                1125

Ala Ser  Gln Pro Cys Gln Asn  Gly Gly Ser Cys Ile  Asp Leu Val
    1130                1135                1140

Ala His  Tyr Leu Cys Ser Cys  Pro Pro Gly Thr Leu  Gly Val Leu
    1145                1150                1155

Cys Glu  Ile Asn Glu Asp Asp  Cys Gly Pro Gly Pro  Ser Leu Asp
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1160 1165 1170

Ser Gly Leu Arg Cys Leu His Asn Gly Thr Cys Val Asp Leu Val
1175 1180 1185

Gly Gly Phe Arg Cys Asn Cys Pro Pro Gly Tyr Thr Gly Leu His
1190 1195 1200

Cys Glu Ala Asp Ile Asn Glu Cys Arg Pro Gly Thr Cys His Ala
1205 1210 1215

Ala His Thr Arg Asp Cys Leu Gln Asp Pro Gly Gly His Phe Arg
1220 1225 1230

Cys Ile Cys Leu Pro Gly Phe Thr Gly Pro Arg Cys Gln Thr Ala
1235 1240 1245

Leu Phe Pro Cys Glu Ser Gln Pro Cys Gln His Gly Gly Gln Cys
1250 1255 1260

Arg Pro Ser Leu Gly Arg Gly Gly Gly Leu Thr Phe Thr Cys His
1265 1270 1275

Cys Val Gln Pro Phe Trp Gly Leu Arg Cys Glu Arg Val Ala Arg
1280 1285 1290

Ser Cys Arg Glu Leu Gln Cys Pro Val Gly Ile Pro Cys Gln Gln
1295 1300 1305

Thr Ala Arg Gly Pro Arg Cys Ala Cys Pro Pro Gly Leu Ser Gly
1310 1315 1320

Pro Ser Cys Arg Val Ser Arg Ala Ser Pro Ser Gly Ala Thr Asn
1325 1330 1335

Thr Ser Cys Ala Ala Thr Pro Cys Leu His Gly Gly Ser Cys Leu

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    1340                1345                1350

Pro Val  Gln Ser Val Pro Phe  Phe Arg Cys Val Cys  Ala Pro Gly
    1355                1360                1365

Trp Gly  Gly Pro Arg Cys Glu  Thr Pro Ser Ala Ala  Pro Glu Val
    1370                1375                1380

Pro Glu  Glu Pro Arg Cys Pro  Arg Ala Ala Cys Gln  Ala Lys Arg
    1385                1390                1395

Gly Asp  Gln Asn Cys Asp Arg  Glu Cys Asn Ser Pro  Gly Cys Gly
    1400                1405                1410

Trp Asp  Gly Gly Asp Cys Ser  Leu Asn Val Asp Asp  Pro Trp Arg
    1415                1420                1425

Gln Cys  Glu Ala Leu Gln Cys  Trp Arg Leu Phe Asn  Asn Ser Arg
    1430                1435                1440

Cys Asp  Pro Ala Cys Ser Ser  Pro Ala Cys Leu Tyr  Asp Asn Phe
    1445                1450                1455

Asp Cys  Tyr Ser Gly Gly Arg  Asp Arg Thr Cys Asn  Pro Val Tyr
    1460                1465                1470

Lys Lys  Tyr Cys Ala Asp His  Phe Ala Asp Gly Arg  Cys Asp Gln
    1475                1480                1485

Gly Cys  Asn Thr Glu Glu Cys  Gly Trp Asp Gly Leu  Asp Cys Ala
    1490                1495                1500

Ser Glu  Val Pro Ala Leu Leu  Ala Arg Gly Val Leu  Val Leu Thr
    1505                1510                1515

Val Leu  Leu Pro Pro Glu Glu  Leu Leu Arg Ser Ser  Ala Asp Phe
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1520 1525 1530

Leu Gln Arg Leu Ser Ala Ile Leu Arg Thr Ser Leu Arg Phe Arg
1535 1540 1545

Leu Asp Ala Arg Gly Gln Ala Met Val Phe Pro Tyr His Arg Pro
1550 1555 1560

Ser Pro Gly Ser Glu Ser Arg Val Arg Arg Glu Leu Gly Pro Glu
1565 1570 1575

Val Ile Gly Ser Val Val Met Leu Glu Ile Asp Asn Arg Leu Cys
1580 1585 1590

Leu Lys Ser Ala Glu Asn Asp His Cys Phe Pro Asp Ala Gln Ser
1595 1600 1605

Ala Ala Asp Tyr Leu Gly Ala Leu Ser Ala Val Glu Arg Leu Asp
1610 1615 1620

Phe Pro Tyr Pro Leu Arg Asp Val Arg Gly Glu Pro Leu Glu Pro
1625 1630 1635

Pro Glu Gln Ser Val Pro Leu Leu Pro Leu Leu Val Ala Gly Ala
1640 1645 1650

Val Phe Leu Leu Val Ile Phe Val Leu Gly Val Met Val Ala Arg
1655 1660 1665

Arg Lys Arg Glu His Ser Thr Leu Trp Phe Pro Glu Gly Phe Ala
1670 1675 1680

Leu His Lys Asp Ile Ala Ala Gly His Lys Gly Arg Arg Glu Pro
1685 1690 1695

Val Gly Gln Asp Ala Leu Gly Met Lys Asn Met Thr Lys Gly Glu

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    1700                1705                1710

Ser Leu  Met Gly Glu Val Ala  Thr Asp Trp Asn Asp  Ser Glu Cys
    1715                1720                1725

Pro Glu  Ala Lys Arg Leu Lys  Val Glu Glu Pro Gly  Met Gly Ala
    1730                1735                1740

Glu Glu  Pro Val Asp Cys Arg  Gln Trp Thr Gln His  His Leu Val
    1745                1750                1755

Ala Ala  Asp Ile Arg Val Ala  Pro Ala Met Ala Leu  Thr Pro Pro
    1760                1765                1770

Gln Gly  Asp Ala Asp Ala Asp  Gly Met Asp Val Asn  Val Arg Gly
    1775                1780                1785

Pro Asp  Gly Phe Thr Pro Leu  Met Leu Ala Ser Phe  Cys Gly Gly
    1790                1795                1800

Ala Leu  Glu Pro Met Pro Ala  Glu Glu Asp Glu Ala  Asp Asp Thr
    1805                1810                1815

Ser Ala  Ser Ile Ile Ser Asp  Leu Ile Cys Gln Gly  Ala Gln Leu
    1820                1825                1830

Gly Ala  Arg Thr Asp Arg Thr  Gly Glu Thr Ala Leu  His Leu Ala
    1835                1840                1845

Ala Arg  Tyr Ala Arg Ala Asp  Ala Ala Lys Arg Leu  Leu Asp Ala
    1850                1855                1860

Gly Ala  Asp Thr Asn Ala Gln  Asp His Ser Gly Arg  Thr Pro Leu
    1865                1870                1875

His Thr  Ala Val Thr Ala Asp  Ala Gln Gly Val Phe  Gln Ile Leu
```

```
    1880                1885                1890

Ile Arg  Asn Arg Ser Thr Asp  Leu Asp Ala Arg Met  Ala Asp Gly
    1895                1900                1905

Ser Thr  Ala Leu Ile Leu Ala  Ala Arg Leu Ala Val  Glu Gly Met
    1910                1915                1920

Val Glu  Glu Leu Ile Ala Ser  His Ala Asp Val Asn  Ala Val Asp
    1925                1930                1935

Glu Leu  Gly Lys Ser Ala Leu  His Trp Ala Ala Ala  Val Asn Asn
    1940                1945                1950

Val Glu  Ala Thr Leu Ala Leu  Leu Lys Asn Gly Ala  Asn Lys Asp
    1955                1960                1965

Met Gln  Asp Ser Lys Glu Glu  Thr Pro Leu Phe Leu  Ala Ala Arg
    1970                1975                1980

Glu Gly  Ser Tyr Glu Ala Ala  Lys Leu Leu Leu Asp  His Phe Ala
    1985                1990                1995

Asn Arg  Glu Ile Thr Asp His  Leu Asp Arg Leu Pro  Arg Asp Val
    2000                2005                2010

Ala Gln  Glu Arg Leu His Gln  Asp Ile Val Arg Leu  Leu Asp Gln
    2015                2020                2025

Pro Ser  Gly Pro Arg Ser Pro  Ser Gly Pro His Gly  Leu Gly Pro
    2030                2035                2040

Leu Leu  Cys Pro Pro Gly Ala  Phe Leu Pro Gly Leu  Lys Ala Val
    2045                2050                2055

Gln Ser  Gly Thr Lys Lys Ser  Arg Arg Pro Pro Gly  Lys Thr Gly
```

2060 2065 2070

Leu Gly Pro Gln Gly Thr Arg Gly Arg Gly Lys Lys Leu Thr Leu
2075 2080 2085

Ala Cys Pro Gly Pro Leu Ala Asp Ser Ser Val Thr Leu Ser Pro
2090 2095 2100

Val Asp Ser Leu Asp Ser Pro Arg Pro Phe Gly Gly Pro Pro Ala
2105 2110 2115

Ser Pro Gly Gly Phe Pro Leu Glu Gly Pro Tyr Ala Thr Thr Ala
2120 2125 2130

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

Leu Gly Arg Gln Pro Pro Gly Gly Cys Val Leu Ser Leu Gly Leu
2150 2155 2160

Leu Asn Pro Val Ala Val Pro Leu Asp Trp Ala Arg Leu Pro Pro
2165 2170 2175

Pro Ala Pro Pro Gly Pro Ser Phe Leu Leu Pro Leu Ala Pro Gly
2180 2185 2190

Ser Gln Leu Leu Asn Pro Ala Thr Pro Val Ser Pro His Glu Arg
2195 2200 2205

Pro Pro Pro Tyr Leu Ala Ala Pro Gly His Gly Glu Glu Tyr Pro
2210 2215 2220

Ala Ala Gly Thr His Ser Ser Pro Thr Lys Ala Arg Phe Leu Arg
2225 2230 2235

Val Pro Ser Glu His Pro Tyr Leu Thr Pro Ser Pro Glu Ser Pro

2240 2245 2250

Glu His Trp Ala Ser Pro Ser Pro Pro Ser Leu Ser Asp Trp Ser
2255 2260 2265

Asp Ser Thr Pro Ser Pro Ala Thr Ala Thr Ser Ala Thr Ala Ala
2270 2275 2280

Gly Ala Leu Pro Ala Gln Pro His Pro Ile Ser Val Pro Ser Leu
2285 2290 2295

Pro Gln Ser Gln Thr Gln Leu Gly Pro Gln Pro Glu Val Thr Pro
2300 2305 2310

Lys Arg Gln Val Met Ala
2315

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<211> 333
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<220>
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<400> 16

Ile Leu Asp Tyr Ser Phe Thr Gly Gly Ala Gly Arg Asp Ile Pro Pro
1 5 10 15

Pro Gln Ile Glu Glu Ala Cys Glu Leu Pro Glu Cys Gln Val Asp Ala
20 25 30

Gly Asn Lys Val Cys Asn Leu Gln Cys Asn Asn His Ala Cys Gly Trp
35 40 45

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

```
Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly His Cys Asp
65                  70                  75                  80

Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe Asp Cys Gln
                85                  90                  95

Leu Thr Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr Cys Lys Asp
            100                 105                 110

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

Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val Pro Glu Arg Leu Ala
    130                 135                 140

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

Asn Asn Ser Phe His Phe Leu Arg Glu Leu Ser His Val Leu His Thr
                165                 170                 175

Asn Val Val Phe Lys Arg Asp Ala Gln Gly Gln Gln Met Ile Phe Pro
            180                 185                 190

Tyr Tyr Gly His Glu Glu Glu Leu Arg Lys His Pro Ile Lys Arg Ser
        195                 200                 205

Thr Val Gly Trp Ala Thr Ser Ser Leu Leu Pro Gly Thr Ser Gly Gly
    210                 215                 220

Arg Gln Arg Arg Glu Leu Asp Pro Met Asp Ile Arg Gly Ser Ile Val
225                 230                 235                 240

Tyr Leu Glu Ile Asp Asn Arg Gln Cys Val Gln Ser Ser Ser Gln Cys
                245                 250                 255
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```
Phe Gln Ser Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser
            260                 265                 270


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


Pro Val Glu Pro Pro Leu Pro Ser Gln Leu His Leu Met Tyr Val Ala
    290                 295                 300


Ala Ala Ala Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu
305                 310                 315                 320


Ser Arg Lys Arg Arg Arg Gln Leu Cys Ile Gln Lys Leu
                325                 330


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<211>  370
<212>  PRT
<213>  Artificial sequence

<220>
<223>  synthetic amino acid sequence

<400>  17

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


Thr Ser Glu Asn Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn
            20                  25                  30


Gly Leu Leu Cys His Ile Leu Asp Tyr Ser Phe Thr Gly Gly Ala Gly
        35                  40                  45


Arg Asp Ile Pro Pro Pro Gln Ile Glu Glu Ala Cys Glu Leu Pro Glu
    50                  55                  60


Cys Gln Val Asp Ala Gly Asn Lys Val Cys Asn Leu Gln Cys Asn Asn
```

65 70 75 80

His Ala Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp
85 90 95

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

Asp Gly His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp
115 120 125

Gly Phe Asp Cys Gln Leu Thr Glu Gly Gln Cys Asn Pro Leu Tyr Asp
130 135 140

Gln Tyr Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys
145 150 155 160

Asn Ser Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val
165 170 175

Pro Glu Arg Leu Ala Ala Gly Thr Leu Val Leu Val Val Leu Leu Pro
180 185 190

Pro Asp Gln Leu Arg Asn Asn Ser Phe His Phe Leu Arg Glu Leu Ser
195 200 205

His Val Leu His Thr Asn Val Val Phe Lys Arg Asp Ala Gln Gly Gln
210 215 220

Gln Met Ile Phe Pro Tyr Tyr Gly His Glu Glu Glu Leu Arg Lys His
225 230 235 240

Pro Ile Lys Arg Ser Thr Val Gly Trp Ala Thr Ser Ser Leu Leu Pro
245 250 255

Gly Thr Ser Gly Gly Arg Gln Arg Arg Glu Leu Asp Pro Met Asp Ile

260 265 270

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

Ser Ser Ser Gln Cys Phe Gln Ser Ala Thr Asp Val Ala Ala Phe Leu
290 295 300

Gly Ala Leu Ala Ser Leu Gly Ser Leu Asn Ile Pro Tyr Lys Ile Glu
305 310 315 320

Ala Val Lys Ser Glu Pro Val Glu Pro Pro Leu Pro Ser Gln Leu His
325 330 335

Leu Met Tyr Val Ala Ala Ala Ala Phe Val Leu Leu Phe Phe Val Gly
340 345 350

Cys Gly Val Leu Leu Ser Arg Lys Arg Arg Arg Gln Leu Cys Ile Gln
355 360 365

Lys Leu
370

<210> 18
<211> 9
<212> PRT
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<220>
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<400> 18

Arg Met Phe Pro Asn Ala Pro Tyr Leu
1 5

<210> 19
<211> 10
<212> PRT

<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 19

Lys Leu Val Val Val Gly Ala Gly Gly Val
1 5 10

<210> 20
<211> 10
<212> PRT
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<220>
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<400> 20

Lys Leu Val Val Val Gly Ala Val Gly Val
1 5 10

<210> 21
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 21

Lys Leu Val Val Val Gly Ala Cys Gly Val
1 5 10

<210> 22
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 22

Lys Leu Val Val Val Gly Ala Asp Gly Val
1 5 10

<210> 23
<211> 9
<212> PRT
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<220>
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<400> 23

Val Val Gly Ala Val Gly Val Gly Lys
1 5

<210> 24
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 24

Val Val Gly Ala Cys Gly Val Gly Lys
1 5

<210> 25
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 25

Val Val Gly Ala Gly Gly Val Gly Lys
1 5

<210> 26

<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 26

Lys Ile Thr Asp Phe Gly Leu Ala Lys
1 5

<210> 27
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 27

Lys Ile Thr Asp Phe Gly Arg Ala Lys
1 5

<210> 28
<211> 9
<212> PRT
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<220>
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<400> 28

Val Leu Gln Glu Leu Asn Val Thr Val
1 5

<210> 29
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 29

Glu Ala Asp Pro Thr Gly His Ser Tyr
1 5

<210> 30
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 30

Phe Leu Trp Gly Pro Arg Ala Leu Val
1 5

<210> 31
<211> 9
<212> PRT
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<220>
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<400> 31

Leu Leu Gly Arg Asn Ser Phe Glu Val
1 5

<210> 32
<211> 10
<212> PRT
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<220>
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<400> 32

Ser Thr Thr Pro Pro Pro Gly Thr Arg Val
1 5 10

<210> 33
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 33

Arg Met Pro Glu Ala Ala Pro Pro Val
1 5

<210> 34
<211> 11
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<213> Artificial sequence

<220>
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<400> 34

Gly Leu Ala Pro Pro Gln His Leu Ile Arg Val
1 5 10

<210> 35
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 35

Glu Leu Ala Gly Ile Gly Ile Leu Thr Val
1 5 10

<210> 36
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 36

Glu Ala Ala Gly Ile Gly Ile Leu Thr Val
1 5 10

<210> 37
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 37

Ile Met Asp Gln Val Pro Phe Ser Val
1 5

<210> 38
<211> 9
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<400> 38

Lys Thr Trp Gly Gln Tyr Trp Gln Val
1 5

<210> 39
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<400> 39

Tyr Leu Glu Pro Gly Pro Val Thr Val

1 5

<210> 40
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<220>
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<400> 40

Tyr Leu Glu Pro Gly Pro Val Thr Ala
1 5

<210> 41
<211> 9
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<220>
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<400> 41

Ile Thr Asp Gln Val Pro Phe Ser Val
1 5

<210> 42
<211> 9
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<220>
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<400> 42

Asn Leu Val Pro Met Val Ala Thr Val
1 5

<210> 43
<211> 9
<212> PRT

<213> Artificial sequence

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<400> 43

Ala Ile Ile Arg Ile Leu Gln Gln Leu
1   5

<210> 44
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 44

Val Leu His Asp Asp Leu Leu Glu Ala
1   5

<210> 45
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 45

Val Leu Arg Asp Asp Leu Leu Glu Ala
1   5

<210> 46
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 46

Ser Leu Leu Met Trp Ile Thr Gln Val
1 5

<210> 47
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 47

Leu Leu Asp Phe Val Arg Phe Met Gly Val
1 5 10

<210> 48
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 48

Phe Met Asn Lys Phe Ile Tyr Glu Ile
1 5

<210> 49
<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 49

Lys Ile Phe Gly Ser Leu Ala Phe Leu
1 5

<210> 50

<211> 9
<212> PRT
<213> Artificial sequence

<220>
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<400> 50

Gly Val Leu Pro Ala Leu Pro Gln Val
1 5

<210> 51
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 51

Thr Met Thr Arg Val Leu Gln Gly Val
1 5

<210> 52
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 52

Phe Leu Leu Thr Arg Ile Leu Thr Ile
1 5

<210> 53
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 53

Ile Leu Ala Lys Phe Leu His Trp Leu
1 5

<210> 54
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 54

Arg Leu Val Asp Asp Phe Leu Leu Val
1 5

<210> 55
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 55

Leu Leu Leu Thr Val Leu Thr Val Val
1 5

<210> 56
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 56

Phe Leu Arg Asn Phe Ser Leu Met Leu
1 5

<210> 57
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 57

Tyr Met Asp Gly Thr Met Ser Gln Val
1 5

<210> 58
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 58

Tyr Leu Leu Pro Ala Ile Val His Ile
1 5

<210> 59
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 59

Phe Leu Ser Glu Leu Thr Gln Gln Leu
1 5

<210> 60
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 60

Ala Leu Tyr Val Asp Ser Leu Phe Phe Leu
1 5 10

<210> 61
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 61

Ser Tyr Ala Met Ser
1 5

<210> 62
<211> 17
<212> PRT
<213> Artificial sequence

<220>
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<400> 62

Gln Ile Asp Pro Trp Gly Gln Glu Thr Leu Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 63
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 63

Leu Thr Gly Arg Phe Asp Tyr
1 5

<210> 64
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 64

Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn
1 5 10

<210> 65
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 65

Ser Ala Ser Gln Leu Gln Ser
1 5

<210> 66
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 66

Gln Gln Gly Pro Gly Thr Pro Asn Thr
1 5

<210> 67
<211> 241
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 67

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                  10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20                  25                  30


Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45


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


Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80


Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95


Ala Lys Leu Thr Gly Arg Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
            100                 105                 110


Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        115                 120                 125


Gly Gly Ser Thr Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
    130                 135                 140


Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser
```

145 150 155 160

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

Lys Leu Leu Ile Tyr Ser Ala Ser Gln Leu Gln Ser Gly Val Pro Ser
180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
195 200 205

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Pro
210 215 220

Gly Thr Pro Asn Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
225 230 235 240

Ala

<210> 68
<211> 241
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 68

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

```
Tyr Ser Ala Ser Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Tyr Tyr Pro Pro
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly Gly Gly
            100                 105                 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Ala Ser Glu Val Gln Leu Val
        115                 120                 125

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
    130                 135                 140

Cys Ala Ala Ser Gly Phe Asn Ile Asn Gly Ser Tyr Ile His Trp Val
145                 150                 155                 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Asp Pro
                165                 170                 175

Glu Thr Gly Tyr Ser Arg Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr
            180                 185                 190

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
        195                 200                 205

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asp Ser Ala
    210                 215                 220

Ser Asp Ala Met Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser
225                 230                 235                 240
```

Ser

<210> 69
<211> 241
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 69

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

Asp Arg Val Thr Ile Ala Cys Arg Ala Ser Gln Asp Val Asn Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Tyr Tyr Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Ala Ser Glu Val Gln Leu Val
115 120 125

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser

```
    130                 135                 140

Cys Ala Ala Ser Gly Phe His Ile Asn Gly Ser Tyr Ile His Trp Val
145                 150                 155                 160

Arg Gln Ala Pro Gly Lys Gly Leu Lys Trp Val Ala Tyr Ile Asp Pro
                165                 170                 175

Glu Thr Gly Tyr Ser Arg Tyr Ala Asp Ser Val Lys Gly Arg Phe Ala
            180                 185                 190

Ile Ser Ala Asp Met Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
        195                 200                 205

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asp Ser Ala
    210                 215                 220

Ser Asp Ala Met Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser
225                 230                 235                 240

Ser
```

<210> 70
<211> 243
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 70

```
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1               5                   10                  15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala
            20                  25                  30
```

```
Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45

Tyr Ser Ala Ser Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Ser Tyr Pro Pro
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Gly Gly Gly
            100                 105                 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Ala Ser Glu Val Gln Leu Val
        115                 120                 125

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
    130                 135                 140

Cys Ala Ala Ser Gly Phe Asn Ile Thr Ser Ser Tyr Ile His Trp Val
145                 150                 155                 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Pro
                165                 170                 175

Glu Asp Gly Tyr Ala Arg His Ala Asp Ser Val Lys Gly Arg Phe Thr
            180                 185                 190

Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser
        195                 200                 205

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg Asp Asp Thr
    210                 215                 220
```

Tyr Tyr Tyr Ser Ala Met Asp Val Trp Gly Gln Gly Thr Leu Val Thr
225 230 235 240

Val Ser Ser

<210> 71
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 71

His Leu Ser Pro Ile Asp Cys Glu Val
1 5

<210> 72
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 72

Leu Thr Ser Met Trp Ser Pro Ala Val
1 5

<210> 73
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 73

His Leu Asp His Pro His Pro Ala Val

1 5

<210> 74
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 74

Ser Leu Ser Val Met Ser Ser Asn Val
1 5

<210> 75
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 75

Met Met Ala Trp Ser Asp Asn Lys Ile
1 5

<210> 76
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 76

Thr Gln Ile Gly Ile Glu Trp Asn Leu
1 5

<210> 77
<211> 9
<212> PRT

<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 77

Cys Leu Phe Glu Met Gln Asp Pro Ala
1   5

<210> 78
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 78

Tyr Leu Ser His Pro Ser Cys Asn Val
1   5

<210> 79
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 79

Gly Ile Glu Trp Asn Leu Ser Pro Val
1   5

<210> 80
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 80

Gly Leu Gly Cys Ser Pro Ala Ser Ile
1 5

<210> 81
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 81

Arg Gln Ala Phe Glu Phe Pro Gln Ile
1 5

<210> 82
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 82

Gly Met Trp Thr Asp Thr Phe Glu Phe
1 5

<210> 83
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 83

Tyr Leu Asn Trp Gln Asp Thr Ala Val
1 5

<210> 84

<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 84

Val Leu Trp Gly Pro Ile Thr Gln Ile
1 5

<210> 85
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 85

Thr Leu Asp His Thr Gly Val Val Val
1 5

<210> 86
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 86

Thr Met Gly Val Trp Leu His Ile Ala
1 5

<210> 87
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 87

Lys Val Trp Val Gln Gly His Tyr Leu
1 5

<210> 88
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 88

Lys Ile Asn Cys Asn Asn Phe Arg Leu
1 5

<210> 89
<211> 56
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 89

Ile Pro Tyr Lys Ile Glu Ala Val Lys Ser Glu Pro Val Glu Pro Pro
1 5 10 15

Leu Pro Ser Gln Leu His Leu Met Tyr Val Ala Ala Ala Ala Phe Val
20 25 30

Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser Arg Lys Arg Arg
35 40 45

Arg Gln Leu Cys Ile Gln Lys Leu
50 55

<210> 90

<211> 120
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 90

Pro Pro Gln Ile Glu Glu Ala Cys Glu Leu Pro Glu Cys Gln Val Asp
1 5 10 15

Ala Gly Asn Lys Val Cys Asn Leu Gln Cys Asn Asn His Ala Cys Gly
20 25 30

Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp Pro Trp Lys Asn
35 40 45

Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly His Cys
50 55 60

Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe Asp Cys
65 70 75 80

Gln Leu Thr Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr Cys Lys
85 90 95

Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys Asn Ser Ala Glu
100 105 110

Cys Glu Trp Asp Gly Leu Asp Cys
115 120

<210> 91
<211> 152
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 91

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


Arg Asn Asn Ser Phe His Phe Leu Arg Glu Leu Ser His Val Leu His
            20                  25                  30


Thr Asn Val Val Phe Lys Arg Asp Ala Gln Gly Gln Gln Met Ile Phe
        35                  40                  45


Pro Tyr Tyr Gly His Glu Glu Glu Leu Arg Lys His Pro Ile Lys Arg
    50                  55                  60


Ser Thr Val Gly Trp Ala Thr Ser Ser Leu Leu Pro Gly Thr Ser Gly
65                  70                  75                  80


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


Val Tyr Leu Glu Ile Asp Asn Arg Gln Cys Val Gln Ser Ser Ser Gln
            100                 105                 110


Cys Phe Gln Ser Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala
        115                 120                 125


Ser Leu Gly Ser Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Lys Ser
    130                 135                 140


Glu Pro Val Glu Pro Pro Leu Pro
145                 150
```

<210> 92
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 92

```
His Leu Met Tyr Val Ala Ala Ala Ala Phe Val Leu Leu Phe Phe Val
1               5                   10                  15


Gly Cys Gly Val Leu Leu Ser
            20
```

<210> 93
<211> 306
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 93

```
Pro Pro Gln Ile Glu Glu Ala Cys Glu Leu Pro Glu Cys Gln Val Asp
1               5                   10                  15


Ala Gly Asn Lys Val Cys Asn Leu Gln Cys Asn Asn His Ala Cys Gly
            20                  25                  30


Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp Pro Trp Lys Asn
        35                  40                  45


Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly His Cys
    50                  55                  60


Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe Asp Cys
65                  70                  75                  80


Gln Leu Thr Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr Cys Lys
                85                  90                  95


Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys Asn Ser Ala Glu
```

```
            100                 105                 110

Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val Pro Glu Arg Leu
        115                 120                 125

Ala Ala Gly Thr Leu Val Leu Val Val Leu Leu Pro Pro Asp Gln Leu
    130                 135                 140

Arg Asn Asn Ser Phe His Phe Leu Arg Glu Leu Ser His Val Leu His
145                 150                 155                 160

Thr Asn Val Val Phe Lys Arg Asp Ala Gln Gly Gln Gln Met Ile Phe
                165                 170                 175

Pro Tyr Tyr Gly His Glu Glu Glu Leu Arg Lys His Pro Ile Lys Arg
            180                 185                 190

Ser Thr Val Gly Trp Ala Thr Ser Ser Leu Leu Pro Gly Thr Ser Gly
        195                 200                 205

Gly Arg Gln Arg Arg Glu Leu Asp Pro Met Asp Ile Arg Gly Ser Ile
    210                 215                 220

Val Tyr Leu Glu Ile Asp Asn Arg Gln Cys Val Gln Ser Ser Ser Gln
225                 230                 235                 240

Cys Phe Gln Ser Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala
                245                 250                 255

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

Glu Pro Val Glu Pro Pro Leu Pro Ser Gln Leu His Leu Met Tyr Val
        275                 280                 285

Ala Ala Ala Ala Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu
```

290 295 300

Leu Ser
305

<210> 94
<211> 358
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 94

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

Thr Ser Glu Asn Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn
20 25 30

Gly Leu Leu Cys His Ile Leu Asp Tyr Ser Phe Thr Gly Gly Ala Gly
35 40 45

Arg Asp Ile Pro Pro Pro Gln Ile Glu Glu Ala Cys Glu Leu Pro Glu
50 55 60

Cys Gln Val Asp Ala Gly Asn Lys Val Cys Asn Leu Gln Cys Asn Asn
65 70 75 80

His Ala Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp
85 90 95

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

Asp Gly His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp
115 120 125

```
Gly Phe Asp Cys Gln Leu Thr Glu Gly Gln Cys Asn Pro Leu Tyr Asp
    130                 135                 140

Gln Tyr Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys
145                 150                 155                 160

Asn Ser Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val
                165                 170                 175

Pro Glu Arg Leu Ala Ala Gly Thr Leu Val Leu Val Val Leu Leu Pro
            180                 185                 190

Pro Asp Gln Leu Arg Asn Asn Ser Phe His Phe Leu Arg Glu Leu Ser
        195                 200                 205

His Val Leu His Thr Asn Val Val Phe Lys Arg Asp Ala Gln Gly Gln
    210                 215                 220

Gln Met Ile Phe Pro Tyr Tyr Gly His Glu Glu Glu Leu Arg Lys His
225                 230                 235                 240

Pro Ile Lys Arg Ser Thr Val Gly Trp Ala Thr Ser Ser Leu Leu Pro
                245                 250                 255

Gly Thr Ser Gly Gly Arg Gln Arg Arg Glu Leu Asp Pro Met Asp Ile
            260                 265                 270

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

Ser Ser Ser Gln Cys Phe Gln Ser Ala Thr Asp Val Ala Ala Phe Leu
    290                 295                 300

Gly Ala Leu Ala Ser Leu Gly Ser Leu Asn Ile Pro Tyr Lys Ile Glu
305                 310                 315                 320
```

Ala Val Lys Ser Glu Pro Val Glu Pro Pro Leu Pro Ser Gln Leu His
325 330 335

Leu Met Tyr Val Ala Ala Ala Ala Phe Val Leu Leu Phe Phe Val Gly
340 345 350

Cys Gly Val Leu Leu Ser
355

<210> 95
<211> 37
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 95

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

Thr Ser Glu Asn Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn
20 25 30

Gly Leu Leu Cys His
35

<210> 96
<211> 37
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 96

Asp Ile Asn Glu Cys Val Leu Ser Pro Cys Arg His Gly Ala Ser Cys
1 5 10 15

Gln Asn Thr His Gly Gly Tyr Arg Cys His Cys Gln Ala Gly Tyr Ser
            20   25   30

Gly Arg Asn Cys Glu
        35

<210> 97
<211> 37
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 97

Asp Ile Asp Asp Cys Arg Pro Asn Pro Cys His Asn Gly Gly Ser Cys
1   5   10   15

Thr Asp Gly Ile Asn Thr Ala Phe Cys Asp Cys Leu Pro Gly Phe Arg
            20   25   30

Gly Thr Phe Cys Glu
        35

<210> 98
<211> 37
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 98

Asp Ile Asn Glu Cys Ala Ser Asp Pro Cys Arg Asn Gly Ala Asn Cys
1   5   10   15

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

Gly Ile His Cys Glu
        35

<210> 99
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 99

Thr Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn
1   5   10   15

Ser Phe Thr Cys Leu Cys Pro Pro Gly Phe Thr Gly Ser Tyr Cys Gln
            20   25   30

<210> 100
<211> 37
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 100

Asp Val Asn Glu Cys Asp Ser Gln Pro Cys Leu His Gly Gly Thr Cys
1   5   10   15

Gln Asp Gly Cys Gly Ser Tyr Arg Cys Thr Cys Pro Gln Gly Tyr Thr
            20   25   30

Gly Pro Asn Cys Gln
        35

<210> 101
<211> 27
<212> PRT

<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 101

Asp Ser Ser Pro Cys Lys Asn Gly Gly Lys Cys Trp Gln Thr His Thr
1   5   10   15

Gln Tyr Arg Cys Glu Cys Pro Ser Gly Trp Thr
            20   25

<210> 102
<211> 36
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 102

Leu Val Asp Glu Cys Ser Pro Ser Pro Cys Gln Asn Gly Ala Thr Cys
1   5   10   15

Thr Asp Tyr Leu Gly Gly Tyr Ser Cys Lys Cys Val Ala Gly Tyr His
            20   25   30

Gly Val Asn Cys
        35

<210> 103
<211> 36
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 103

Ile Asp Glu Cys Leu Ser His Pro Cys Gln Asn Gly Gly Thr Cys Leu

1 5 10 15

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

Val His Cys Glu
35

<210> 104
<211> 28
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 104

Cys Phe Asn Asn Gly Thr Cys Val Asp Gln Val Gly Gly Tyr Ser Cys
1 5 10 15

Thr Cys Pro Pro Gly Phe Val Gly Glu Arg Cys Glu
20 25

<210> 105
<211> 39
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 105

Asp Val Asn Glu Cys Leu Ser Asn Pro Cys Asp Ala Arg Gly Thr Gln
1 5 10 15

Asn Cys Val Gln Arg Val Asn Asp Phe His Cys Glu Cys Arg Ala Gly
20 25 30

His Thr Gly Arg Arg Cys Glu

35

<210> 106
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 106

Gly Arg Arg Arg Arg Glu Leu Asp Pro Met
1 5 10

<210> 107
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 107

Arg Gln Arg Arg Glu Leu Asp Pro Met
1 5

<210> 108
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 108

Lys Ile Glu Ala Val Lys Ser Glu
1 5

<210> 109
<211> 8
<212> PRT

<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 109

Lys Ile Glu Ala Val Gln Ser Glu
1   5

<210> 110
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 110

Val Gly Cys Gly Val Leu Leu Ser
1   5

<210> 111
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 111

Gly Cys Gly Val Leu Leu Ser
1   5

<210> 112
<211> 248
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 112

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Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1               5                  10                  15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
            20                  25                  30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
        35                  40                  45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
    50                  55                  60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65                  70                  75                  80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85                  90                  95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
            100                 105                 110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
        115                 120                 125

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

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145                 150                 155                 160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
                165                 170                 175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
            180                 185                 190
```

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Gly Pro
195 200 205

Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Pro Ala Asp Ala
210 215 220

Leu Asp Asp Phe Asp Leu Asp Met Leu Pro Ala Asp Ala Leu Asp Asp
225 230 235 240

Phe Asp Leu Asp Met Leu Pro Gly
245

<210> 113
<211> 211
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 113

Met Lys Leu Leu Ser Ser Ile Glu Gln Ala Cys Asp Ile Cys Arg Leu
1 5 10 15

Lys Lys Leu Lys Cys Ser Lys Glu Lys Pro Lys Cys Ala Lys Cys Leu
20 25 30

Lys Asn Asn Trp Glu Cys Arg Tyr Ser Pro Lys Thr Lys Arg Ser Pro
35 40 45

Leu Thr Arg Ala His Leu Thr Glu Val Glu Ser Arg Leu Glu Arg Leu
50 55 60

Glu Gln Leu Phe Leu Leu Ile Phe Pro Arg Glu Asp Leu Asp Met Ile
65 70 75 80

Leu Lys Met Asp Ser Leu Gln Asp Ile Lys Ala Leu Leu Thr Gly Leu

85 90 95

Phe Val Gln Asp Asn Val Asn Lys Asp Ala Val Thr Asp Arg Leu Ala
100 105 110

Ser Val Glu Thr Asp Met Pro Leu Thr Leu Arg Gln His Arg Ile Ser
115 120 125

Ala Thr Ser Ser Ser Glu Glu Ser Ser Asn Lys Gly Gln Arg Gln Leu
130 135 140

Thr Val Ser Ala Ala Ala Gly Gly Ser Gly Gly Ser Gly Gly Ser Asp
145 150 155 160

Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp
165 170 175

Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp
180 185 190

Leu Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met
195 200 205

Leu Gly Ser
210

<210> 114
<211> 115
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 114

Pro Lys Lys Lys Arg Lys Val Asp Ala Leu Asp Asp Phe Asp Leu Asp
1 5 10 15

```
Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly
            20                  25                  30


Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala
        35                  40                  45


Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Gly Gly Ser Gly Gly
    50                  55                  60


Ser Gly Gly Ser Leu Glu Ile Glu Ala Ala Phe Leu Glu Arg Glu Asn
65                  70                  75                  80


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


Leu Arg Asn Arg Val Ser Gln Tyr Arg Thr Arg Tyr Gly Pro Leu Gly
            100                 105                 110


Gly Gly Lys
        115
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<210> 115
<211> 5
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<220>
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<400> 115

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Gly Gly Gly Gly Ser
1               5
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<210> 116
<211> 282
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 116

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Met Glu Thr Leu Leu Gly Leu Leu Ile Leu Trp Leu Gln Leu Gln Trp
1               5                  10                  15


Val Ser Ser Lys Gln Glu Val Thr Gln Ile Pro Ala Ala Leu Ser Val
            20                  25                  30


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


Ile Tyr Asn Leu Gln Trp Phe Arg Gln Asp Pro Gly Lys Gly Leu Thr
    50                  55                  60


Ser Leu Leu Leu Ile Gln Ser Ser Gln Arg Glu Gln Thr Ser Gly Arg
65                  70                  75                  80


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


Ala Ala Ser Gln Pro Gly Asp Ser Ala Thr Tyr Leu Cys Ala Val Arg
            100                 105                 110


Pro Leu Leu Asp Gly Thr Tyr Ile Pro Thr Phe Gly Arg Gly Thr Ser
        115                 120                 125


Leu Ile Val His Pro Gly Ser Ala Asp Asp Ala Lys Lys Asp Ala Ala
    130                 135                 140


Lys Lys Asp Gly Lys Ser Met Ser Ile Gly Leu Leu Cys Cys Ala Ala
145                 150                 155                 160


Leu Ser Leu Leu Trp Ala Gly Pro Val Asn Ala Gly Val Thr Gln Thr
                165                 170                 175
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Pro Lys Phe Gln Val Leu Lys Thr Gly Gln Ser Met Thr Leu Gln Cys
180 185 190

Ala Gln Asp Met Asn His Glu Tyr Met Ser Trp Tyr Arg Gln Asp Pro
195 200 205

Gly Met Gly Leu Arg Leu Ile His Tyr Ser Val Gly Ala Gly Thr Thr
210 215 220

Asp Arg Gly Glu Val Pro Asn Gly Tyr Asn Val Ser Arg Ser Thr Ile
225 230 235 240

Glu Asp Phe Pro Leu Arg Leu Leu Ser Ala Ala Pro Ser Gln Thr Ser
245 250 255

Val Tyr Phe Cys Ala Ser Ser Tyr Val Gly Asp Thr Gly Glu Leu Phe
260 265 270

Phe Gly Glu Gly Ser Arg Leu Thr Val Leu
275 280

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<211> 9
<212> PRT
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<220>
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<400> 117

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
1 5

<210> 118
<211> 8
<212> PRT
<213> Artificial sequence

<220>
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<400> 118

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 119
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 119

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
1 5 10

<210> 120
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 120

His His His His His
1 5

<210> 121
<211> 6
<212> PRT
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<220>
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<400> 121

His His His His His His

1 5

<210> 122
<211> 8
<212> PRT
<213> Artificial sequence

<220>
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<400> 122

Trp Ser His Pro Gln Phe Glu Lys
1 5

<210> 123
<211> 5
<212> PRT
<213> Artificial sequence

<220>
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<400> 123

Arg Tyr Ile Arg Ser
1 5

<210> 124
<211> 4
<212> PRT
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<220>
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<400> 124

Phe His His Thr
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<210> 125
<211> 17
<212> PRT

<213> Artificial sequence

<220>
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<400> 125

Trp Glu Ala Ala Ala Arg Glu Ala Cys Cys Arg Glu Cys Cys Ala Arg
1 5 10 15

Ala

<210> 126
<211> 7
<212> PRT
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<220>
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<400> 126

Pro Lys Lys Lys Arg Lys Val
1 5

<210> 127
<211> 16
<212> PRT
<213> Artificial sequence

<220>
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<400> 127

Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys Lys Lys
1 5 10 15

<210> 128
<211> 8
<212> PRT
<213> Artificial sequence

<220>
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<400> 128

Met Val Pro Lys Lys Lys Arg Lys
1 5

<210> 129
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> synthetic amino acid sequence

<400> 129

Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val Pro Ala
1 5 10 15

Ala

<210> 130
<211> 4
<212> PRT
<213> Artificial sequence

<220>
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<220>
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<222> (2)..(2)
<223> The residue at this position may be any amino acid.

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> The residue at this position may be an Arg or Lys.

<400> 130

Arg Xaa Xaa Arg
1

<210> 131
<211> 142
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic amino acid sequence

<400> 131

Pro Asn Ile Gln Asn Pro Asp Pro Ala Val Tyr Gln Leu Arg Asp Ser
1 5 10 15

Lys Ser Ser Asp Lys Ser Val Cys Leu Phe Thr Asp Phe Asp Ser Gln
20 25 30

Thr Asn Val Ser Gln Ser Lys Asp Ser Asp Val Tyr Ile Thr Asp Lys
35 40 45

Cys Val Leu Asp Met Arg Ser Met Asp Phe Lys Ser Asn Ser Ala Val
50 55 60

Ala Trp Ser Asn Lys Ser Asp Phe Ala Cys Ala Asn Ala Phe Asn Asn
65 70 75 80

Ser Ile Ile Pro Glu Asp Thr Phe Phe Pro Ser Pro Glu Ser Ser Cys
85 90 95

Asp Val Lys Leu Val Glu Lys Ser Phe Glu Thr Asp Thr Asn Leu Asn
100 105 110

Phe Gln Asn Leu Ser Val Ile Gly Phe Arg Ile Leu Leu Leu Lys Val
115 120 125

Ala Gly Phe Asn Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
130 135 140

<210> 132
<211> 138
<212> PRT
<213> Artificial Sequence

<220>
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<400> 132

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Pro Tyr Ile Gln Asn Pro Glu Pro Ala Val Tyr Gln Leu Lys Asp Pro
1               5                  10                  15


Arg Ser Gln Asp Ser Thr Leu Cys Leu Phe Thr Asp Phe Asp Ser Gln
            20                  25                  30


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


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


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


Thr Asn Ala Cys Tyr Pro Ser Ser Asp Val Pro Cys Asp Ala Thr Leu
                85                  90                  95


Thr Glu Lys Ser Phe Glu Thr Asp Met Asn Leu Asn Phe Gln Asn Leu
            100                 105                 110


Ser Val Met Gly Leu Arg Ile Leu Leu Leu Lys Val Ala Gly Phe Asn
        115                 120                 125


Leu Leu Met Thr Leu Arg Leu Trp Ser Ser
    130                 135
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<210> 133
<211> 177
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic amino acid sequence

<400> 133

Glu Asp Leu Asn Lys Val Phe Pro Pro Glu Val Ala Val Phe Glu Pro
1 5 10 15

Ser Glu Ala Glu Ile Ser His Thr Gln Lys Ala Thr Leu Val Cys Leu
20 25 30

Ala Thr Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val Asn
35 40 45

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

Glu Gln Pro Ala Leu Asn Asp Ser Arg Tyr Cys Leu Ser Ser Arg Leu
65 70 75 80

Arg Val Ser Ala Thr Phe Trp Gln Asn Pro Arg Asn His Phe Arg Cys
85 90 95

Gln Val Gln Phe Tyr Gly Leu Ser Glu Asn Asp Glu Trp Thr Gln Asp
100 105 110

Arg Ala Lys Pro Val Thr Gln Ile Val Ser Ala Glu Ala Trp Gly Arg
115 120 125

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

Ala Thr Ile Leu Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala
145 150 155 160

Val Leu Val Ser Ala Leu Val Leu Met Ala Met Val Lys Arg Lys Asp
165 170 175

Phe

<210> 134
<211> 173
<212> PRT
<213> Artificial Sequence

<220>
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<400> 134

Glu Asp Leu Arg Asn Val Thr Pro Pro Lys Val Ser Leu Phe Glu Pro
1 5 10 15

Ser Lys Ala Glu Ile Ala Asn Lys Gln Lys Ala Thr Leu Val Cys Leu
20 25 30

Ala Arg Gly Phe Phe Pro Asp His Val Glu Leu Ser Trp Trp Val Asn
35 40 45

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

Glu Ser Asn Tyr Ser Tyr Cys Leu Ser Ser Arg Leu Arg Val Cys Ala
65 70 75 80

Thr Phe Trp His Asn Pro Arg Asn His Phe Arg Cys Gln Val Gln Phe
85 90 95

His Gly Leu Ser Glu Glu Asp Lys Trp Pro Glu Gly Ser Pro Lys Pro
100 105 110

```
Val Thr Gln Asn Ile Ser Ala Glu Ala Trp Gly Arg Ala Asp Cys Gly
        115                 120                 125


Ile Thr Ser Ala Ser Tyr Gln Gln Gly Val Leu Ser Ala Thr Ile Leu
    130                 135                 140


Tyr Glu Ile Leu Leu Gly Lys Ala Thr Leu Tyr Ala Val Leu Val Ser
145                 150                 155                 160


Thr Leu Val Val Met Ala Met Val Lys Arg Lys Asn Ser
                165                 170
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