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<210> 1
<211> 2347
<212> PRT
<213> Homo sapiens

<400> 1

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Met Lys Asn Ile Tyr Cys Leu Ile Pro Lys Leu Val Asn Phe Ala Thr
1               5                  10                  15


Leu Gly Cys Leu Trp Ile Ser Val Val Gln Cys Thr Val Leu Asn Ser
            20                  25                  30


Cys Leu Lys Ser Cys Val Thr Asn Leu Gly Gln Gln Leu Asp Leu Gly
        35                  40                  45


Thr Pro His Asn Leu Ser Glu Pro Cys Ile Gln Gly Cys His Phe Trp
    50                  55                  60


Asn Ser Val Asp Gln Lys Asn Cys Ala Leu Lys Cys Arg Glu Ser Cys
65                  70                  75                  80


Glu Val Gly Cys Ser Ser Ala Glu Gly Ala Tyr Glu Glu Glu Val Leu
                85                  90                  95


Glu Asn Ala Asp Leu Pro Thr Ala Pro Phe Ala Ser Ser Ile Gly Ser
            100                 105                 110
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His Asn Met Thr Leu Arg Trp Lys Ser Ala Asn Phe Ser Gly Val Lys
        115                 120                 125

Tyr Ile Ile Gln Trp Lys Tyr Ala Gln Leu Leu Gly Ser Trp Thr Tyr
    130                 135                 140

Thr Lys Thr Val Ser Arg Pro Ser Tyr Val Val Lys Pro Leu His Pro
145                 150                 155                 160

Phe Thr Glu Tyr Ile Phe Arg Val Val Trp Ile Phe Thr Ala Gln Leu
                165                 170                 175

Gln Leu Tyr Ser Pro Pro Ser Pro Ser Tyr Arg Thr His Pro His Gly
            180                 185                 190

Val Pro Glu Thr Ala Pro Leu Ile Arg Asn Ile Glu Ser Ser Ser Pro
        195                 200                 205

Asp Thr Val Glu Val Ser Trp Asp Pro Pro Gln Phe Pro Gly Gly Pro
    210                 215                 220

Ile Leu Gly Tyr Asn Leu Arg Leu Ile Ser Lys Asn Gln Lys Leu Asp
225                 230                 235                 240

Ala Gly Thr Gln Arg Thr Ser Phe Gln Phe Tyr Ser Thr Leu Pro Asn
                245                 250                 255

Thr Ile Tyr Arg Phe Ser Ile Ala Ala Val Asn Glu Val Gly Glu Gly
            260                 265                 270

Pro Glu Ala Glu Ser Ser Ile Thr Thr Ser Ser Ser Ala Val Gln Gln
        275                 280                 285

Glu Glu Gln Trp Leu Phe Leu Ser Arg Lys Thr Ser Leu Arg Lys Arg
    290                 295                 300

Ser Leu Lys His Leu Val Asp Glu Ala His Cys Leu Arg Leu Asp Ala
305                 310                 315                 320
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```
Ile Tyr His Asn Ile Thr Gly Ile Ser Val Asp Val His Gln Gln Ile
                325                 330                 335

Val Tyr Phe Ser Glu Gly Thr Leu Ile Trp Ala Lys Lys Ala Ala Asn
            340                 345                 350

Met Ser Asp Val Ser Asp Leu Arg Ile Phe Tyr Arg Gly Ser Gly Leu
        355                 360                 365

Ile Ser Ser Ile Ser Ile Asp Trp Leu Tyr Gln Arg Met Tyr Phe Ile
    370                 375                 380

Met Asp Glu Leu Val Cys Val Cys Asp Leu Glu Asn Cys Ser Asn Ile
385                 390                 395                 400

Glu Glu Ile Thr Pro Pro Ser Ile Ser Ala Pro Gln Lys Ile Val Ala
                405                 410                 415

Asp Ser Tyr Asn Gly Tyr Val Phe Tyr Leu Leu Arg Asp Gly Ile Tyr
            420                 425                 430

Arg Ala Asp Leu Pro Val Pro Ser Gly Arg Cys Ala Glu Ala Val Arg
        435                 440                 445

Ile Val Glu Ser Cys Thr Leu Lys Asp Phe Ala Ile Lys Pro Gln Ala
    450                 455                 460

Lys Arg Ile Ile Tyr Phe Asn Asp Thr Ala Gln Val Phe Met Ser Thr
465                 470                 475                 480

Phe Leu Asp Gly Ser Ala Ser His Leu Ile Leu Pro Arg Ile Pro Phe
                485                 490                 495

Ala Asp Val Lys Ser Phe Ala Cys Glu Asn Asn Asp Phe Leu Val Thr
            500                 505                 510
```

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Asp Gly Lys Val Ile Phe Gln Gln Asp Ala Leu Ser Phe Asn Glu Phe
        515                 520                 525

Ile Val Gly Cys Asp Leu Ser His Ile Glu Glu Phe Gly Phe Gly Asn
    530                 535                 540

Leu Val Ile Phe Gly Ser Ser Ser Gln Leu His Pro Leu Pro Gly Arg
545                 550                 555                 560

Pro Gln Glu Leu Ser Val Leu Phe Gly Ser His Gln Ala Leu Val Gln
                565                 570                 575

Trp Lys Pro Pro Ala Leu Ala Ile Gly Ala Asn Val Ile Leu Ile Ser
            580                 585                 590

Asp Ile Ile Glu Leu Phe Glu Leu Gly Pro Ser Ala Trp Gln Asn Trp
        595                 600                 605

Thr Tyr Glu Val Lys Val Ser Thr Gln Asp Pro Pro Glu Val Thr His
    610                 615                 620

Ile Phe Leu Asn Ile Ser Gly Thr Met Leu Asn Val Pro Glu Leu Gln
625                 630                 635                 640

Ser Ala Met Lys Tyr Lys Val Ser Val Arg Ala Ser Ser Pro Lys Arg
                645                 650                 655

Pro Gly Pro Trp Ser Glu Pro Ser Val Gly Thr Thr Leu Val Pro Ala
            660                 665                 670

Ser Glu Pro Pro Phe Ile Met Ala Val Lys Glu Asp Gly Leu Trp Ser
        675                 680                 685

Lys Pro Leu Asn Ser Phe Gly Pro Gly Glu Phe Leu Ser Ser Asp Ile
    690                 695                 700

Gly Asn Val Ser Asp Met Asp Trp Tyr Asn Asn Ser Leu Tyr Tyr Ser
705                 710                 715                 720
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Asp Thr Lys Gly Asp Val Phe Val Trp Leu Leu Asn Gly Thr Asp Ile
               725                 730                 735

Ser Glu Asn Tyr His Leu Pro Ser Ile Ala Gly Ala Gly Ala Leu Ala
            740                 745                 750

Phe Glu Trp Leu Gly His Phe Leu Tyr Trp Ala Gly Lys Thr Tyr Val
        755                 760                 765

Ile Gln Arg Gln Ser Val Leu Thr Gly His Thr Asp Ile Val Thr His
    770                 775                 780

Val Lys Leu Leu Val Asn Asp Met Val Val Asp Ser Val Gly Gly Tyr
785                 790                 795                 800

Leu Tyr Trp Thr Thr Leu Tyr Ser Val Glu Ser Thr Arg Leu Asn Gly
               805                 810                 815

Glu Ser Ser Leu Val Leu Gln Thr Gln Pro Trp Phe Ser Gly Lys Lys
            820                 825                 830

Val Ile Ala Leu Thr Leu Asp Leu Ser Asp Gly Leu Leu Tyr Trp Leu
        835                 840                 845

Val Gln Asp Ser Gln Cys Ile His Leu Tyr Thr Ala Val Leu Arg Gly
    850                 855                 860

Gln Ser Thr Gly Asp Thr Thr Ile Thr Glu Phe Ala Ala Trp Ser Thr
865                 870                 875                 880

Ser Glu Ile Ser Gln Asn Ala Leu Met Tyr Tyr Ser Gly Arg Leu Phe
               885                 890                 895

Trp Ile Asn Gly Phe Arg Ile Ile Thr Thr Gln Glu Ile Gly Gln Lys
            900                 905                 910
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```
Thr Ser Val Ser Val Leu Glu Pro Ala Arg Phe Asn Gln Phe Thr Ile
        915                 920                 925


Ile Gln Thr Ser Leu Lys Pro Leu Pro Gly Asn Phe Ser Phe Thr Pro
    930                 935                 940


Lys Val Ile Pro Asp Ser Val Gln Glu Ser Ser Phe Arg Ile Glu Gly
945                 950                 955                 960


Asn Ala Ser Ser Phe Gln Ile Leu Trp Asn Gly Pro Pro Ala Val Asp
                965                 970                 975


Trp Gly Val Val Phe Tyr Ser Val Glu Phe Ser Ala His Ser Lys Phe
            980                 985                 990


Leu Ala Ser Glu Gln His Ser Leu  Pro Val Phe Thr Val  Glu Gly Leu
        995                 1000                1005


Glu Pro  Tyr Ala Leu Phe Asn  Leu Ser Val Thr Pro  Tyr Thr Tyr
    1010                1015                1020


Trp Gly  Lys Gly Pro Lys Thr  Ser Leu Ser Leu Arg  Ala Pro Glu
    1025                1030                1035


Thr Val  Pro Ser Ala Pro Glu  Asn Pro Arg Ile Phe  Ile Leu Pro
    1040                1045                1050


Ser Gly  Lys Cys Cys Asn Lys  Asn Glu Val Val Val  Glu Phe Arg
    1055                1060                1065


Trp Asn  Lys Pro Lys His Glu  Asn Gly Val Leu Thr  Lys Phe Glu
    1070                1075                1080


Ile Phe  Tyr Asn Ile Ser Asn  Gln Ser Ile Thr Asn  Lys Thr Cys
    1085                1090                1095


Glu Asp  Trp Ile Ala Val Asn  Val Thr Pro Ser Val  Met Ser Phe
    1100                1105                1110
```

```
Gln Leu  Glu Gly Met Ser Pro  Arg Cys Phe Ile Ala  Phe Gln Val
    1115                1120                1125

Arg Ala  Phe Thr Ser Lys Gly  Pro Gly Pro Tyr Ala  Asp Val Val
    1130                1135                1140

Lys Ser  Thr Thr Ser Glu Ile  Asn Pro Phe Pro His  Leu Ile Thr
    1145                1150                1155

Leu Leu  Gly Asn Lys Ile Val  Phe Leu Asp Met Asp  Gln Asn Gln
    1160                1165                1170

Val Val  Trp Thr Phe Ser Ala  Glu Arg Val Ile Ser  Ala Val Cys
    1175                1180                1185

Tyr Thr  Ala Asp Asn Glu Met  Gly Tyr Tyr Ala Glu  Gly Asp Ser
    1190                1195                1200

Leu Phe  Leu Leu His Leu His  Asn Arg Ser Ser Ser  Glu Leu Phe
    1205                1210                1215

Gln Asp  Ser Leu Val Phe Asp  Ile Thr Val Ile Thr  Ile Asp Trp
    1220                1225                1230

Ile Ser  Arg His Leu Tyr Phe  Ala Leu Lys Glu Ser  Gln Asn Gly
    1235                1240                1245

Met Gln  Val Phe Asp Val Asp  Leu Glu His Lys Val  Lys Tyr Pro
    1250                1255                1260

Arg Glu  Val Lys Ile His Asn  Arg Asn Ser Thr Ile  Ile Ser Phe
    1265                1270                1275

Ser Val  Tyr Pro Leu Leu Ser  Arg Leu Tyr Trp Thr  Glu Val Ser
    1280                1285                1290
```

```
Asn Phe  Gly Tyr Gln Met Phe  Tyr Tyr Ser Ile Ile  Ser His Thr
    1295                1300                1305

Leu His  Arg Ile Leu Gln Pro  Thr Ala Thr Asn Gln  Gln Asn Lys
    1310                1315                1320

Arg Asn  Gln Cys Ser Cys Asn  Val Thr Glu Phe Glu  Leu Ser Gly
    1325                1330                1335

Ala Met  Ala Ile Asp Thr Ser  Asn Leu Glu Lys Pro  Leu Ile Tyr
    1340                1345                1350

Phe Ala  Lys Ala Gln Glu Ile  Trp Ala Met Asp Leu  Glu Gly Cys
    1355                1360                1365

Gln Cys  Trp Arg Val Ile Thr  Val Pro Ala Met Leu  Ala Gly Lys
    1370                1375                1380

Thr Leu  Val Ser Leu Thr Val  Asp Gly Asp Leu Ile  Tyr Trp Ile
    1385                1390                1395

Ile Thr  Ala Lys Asp Ser Thr  Gln Ile Tyr Gln Ala  Lys Lys Gly
    1400                1405                1410

Asn Gly  Ala Ile Val Ser Gln  Val Lys Ala Leu Arg  Ser Arg His
    1415                1420                1425

Ile Leu  Ala Tyr Ser Ser Val  Met Gln Pro Phe Pro  Asp Lys Ala
    1430                1435                1440

Phe Leu  Ser Leu Ala Ser Asp  Thr Val Glu Pro Thr  Ile Leu Asn
    1445                1450                1455

Ala Thr  Asn Thr Ser Leu Thr  Ile Arg Leu Pro Leu  Ala Lys Thr
    1460                1465                1470

Asn Leu  Thr Trp Tyr Gly Ile  Thr Ser Pro Thr Pro  Thr Tyr Leu
    1475                1480                1485
```

```
Val Tyr  Tyr Ala Glu Val Asn  Asp Arg Lys Asn Ser  Ser Asp Leu
    1490                1495                1500

Lys Tyr  Arg Ile Leu Glu Phe  Gln Asp Ser Ile Ala  Leu Ile Glu
    1505                1510                1515

Asp Leu  Gln Pro Phe Ser Thr  Tyr Met Ile Gln Ile  Ala Val Lys
    1520                1525                1530

Asn Tyr  Tyr Ser Asp Pro Leu  Glu His Leu Pro Pro  Gly Lys Glu
    1535                1540                1545

Ile Trp  Gly Lys Thr Lys Asn  Gly Val Pro Glu Ala  Val Gln Leu
    1550                1555                1560

Ile Asn  Thr Thr Val Arg Ser  Asp Thr Ser Leu Ile  Ile Ser Trp
    1565                1570                1575

Arg Glu  Ser His Lys Pro Asn  Gly Pro Lys Glu Ser  Val Arg Tyr
    1580                1585                1590

Gln Leu  Ala Ile Ser His Leu  Ala Leu Ile Pro Glu  Thr Pro Leu
    1595                1600                1605

Arg Gln  Ser Glu Phe Pro Asn  Gly Arg Leu Thr Leu  Leu Val Thr
    1610                1615                1620

Arg Leu  Ser Gly Gly Asn Ile  Tyr Val Leu Lys Val  Leu Ala Cys
    1625                1630                1635

His Ser  Glu Glu Met Trp Cys  Thr Glu Ser His Pro  Val Thr Val
    1640                1645                1650

Glu Met  Phe Asn Thr Pro Glu  Lys Pro Tyr Ser Leu  Val Pro Glu
    1655                1660                1665
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```
Asn Thr  Ser Leu Gln Phe Asn  Trp Lys Ala Pro Leu  Asn Val Asn
    1670                1675                1680

Leu Ile  Arg Phe Trp Val Glu  Leu Gln Lys Trp Lys  Tyr Asn Glu
    1685                1690                1695

Phe Tyr  His Val Lys Thr Ser  Cys Ser Gln Gly Pro  Ala Tyr Val
    1700                1705                1710

Cys Asn  Ile Thr Asn Leu Gln  Pro Tyr Thr Ser Tyr  Asn Val Arg
    1715                1720                1725

Val Val  Val Val Tyr Lys Thr  Gly Glu Asn Ser Thr  Ser Leu Pro
    1730                1735                1740

Glu Ser  Phe Lys Thr Lys Ala  Gly Val Pro Asn Lys  Pro Gly Ile
    1745                1750                1755

Pro Lys  Leu Leu Glu Gly Ser  Lys Asn Ser Ile Gln  Trp Glu Lys
    1760                1765                1770

Ala Glu  Asp Asn Gly Cys Arg  Ile Thr Tyr Tyr Ile  Leu Glu Ile
    1775                1780                1785

Arg Lys  Ser Thr Ser Asn Asn  Leu Gln Asn Gln Asn  Leu Arg Trp
    1790                1795                1800

Lys Met  Thr Phe Asn Gly Ser  Cys Ser Ser Val Cys  Thr Trp Lys
    1805                1810                1815

Ser Lys  Asn Leu Lys Gly Ile  Phe Gln Phe Arg Val  Val Ala Ala
    1820                1825                1830

Asn Asn  Leu Gly Phe Gly Glu  Tyr Ser Gly Ile Ser  Glu Asn Ile
    1835                1840                1845

Ile Leu  Val Gly Asp Asp Phe  Trp Ile Pro Glu Thr  Ser Phe Ile
    1850                1855                1860
```

```
Leu Thr  Ile Ile Val Gly Ile  Phe Leu Val Val Thr  Ile Pro Leu
    1865                1870                1875

Thr Phe  Val Trp His Arg Arg  Leu Lys Asn Gln Lys  Ser Ala Lys
    1880                1885                1890

Glu Gly  Val Thr Val Leu Ile  Asn Glu Asp Lys Glu  Leu Ala Glu
    1895                1900                1905

Leu Arg  Gly Leu Ala Ala Gly  Val Gly Leu Ala Asn  Ala Cys Tyr
    1910                1915                1920

Ala Ile  His Thr Leu Pro Thr  Gln Glu Glu Ile Glu  Asn Leu Pro
    1925                1930                1935

Ala Phe  Pro Arg Glu Lys Leu  Thr Leu Arg Leu Leu  Leu Gly Ser
    1940                1945                1950

Gly Ala  Phe Gly Glu Val Tyr  Glu Gly Thr Ala Val  Asp Ile Leu
    1955                1960                1965

Gly Val  Gly Ser Gly Glu Ile  Lys Val Ala Val Lys  Thr Leu Lys
    1970                1975                1980

Lys Gly  Ser Thr Asp Gln Glu  Lys Ile Glu Phe Leu  Lys Glu Ala
    1985                1990                1995

His Leu  Met Ser Lys Phe Asn  His Pro Asn Ile Leu  Lys Gln Leu
    2000                2005                2010

Gly Val  Cys Leu Leu Asn Glu  Pro Gln Tyr Ile Ile  Leu Glu Leu
    2015                2020                2025

Met Glu  Gly Gly Asp Leu Leu  Thr Tyr Leu Arg Lys  Ala Arg Met
    2030                2035                2040
```

```
Ala Thr  Phe Tyr Gly Pro Leu  Leu Thr Leu Val Asp  Leu Val Asp
    2045                2050                2055

Leu Cys  Val Asp Ile Ser Lys  Gly Cys Val Tyr Leu  Glu Arg Met
    2060                2065                2070

His Phe  Ile His Arg Asp Leu  Ala Ala Arg Asn Cys  Leu Val Ser
    2075                2080                2085

Val Lys  Asp Tyr Thr Ser Pro  Arg Ile Val Lys Ile  Gly Asp Phe
    2090                2095                2100

Gly Leu  Ala Arg Asp Ile Tyr  Lys Asn Asp Tyr Tyr  Arg Lys Arg
    2105                2110                2115

Gly Glu  Gly Leu Leu Pro Val  Arg Trp Met Ala Pro  Glu Ser Leu
    2120                2125                2130

Met Asp  Gly Ile Phe Thr Thr  Gln Ser Asp Val Trp  Ser Phe Gly
    2135                2140                2145

Ile Leu  Ile Trp Glu Ile Leu  Thr Leu Gly His Gln  Pro Tyr Pro
    2150                2155                2160

Ala His  Ser Asn Leu Asp Val  Leu Asn Tyr Val Gln  Thr Gly Gly
    2165                2170                2175

Arg Leu  Glu Pro Pro Arg Asn  Cys Pro Asp Asp Leu  Trp Asn Leu
    2180                2185                2190

Met Thr  Gln Cys Trp Ala Gln  Glu Pro Asp Gln Arg  Pro Thr Phe
    2195                2200                2205

His Arg  Ile Gln Asp Gln Leu  Gln Leu Phe Arg Asn  Phe Phe Leu
    2210                2215                2220

Asn Ser  Ile Tyr Lys Ser Arg  Asp Glu Ala Asn Asn  Ser Gly Val
    2225                2230                2235
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```
Ile Asn  Glu Ser Phe Glu Gly  Glu Asp Gly Asp Val  Ile Cys Leu
    2240                2245                2250

Asn Ser  Asp Asp Ile Met Pro  Val Ala Leu Met Glu  Thr Lys Asn
    2255                2260                2265

Arg Glu  Gly Leu Asn Tyr Met  Val Leu Ala Thr Glu  Cys Gly Gln
    2270                2275                2280

Gly Glu  Glu Lys Ser Glu Gly  Pro Leu Gly Ser Gln  Glu Ser Glu
    2285                2290                2295

Ser Cys  Gly Leu Arg Lys Glu  Glu Lys Glu Pro His  Ala Asp Lys
    2300                2305                2310

Asp Phe  Cys Gln Glu Lys Gln  Val Ala Tyr Cys Pro  Ser Gly Lys
    2315                2320                2325

Pro Glu  Gly Leu Asn Tyr Ala  Cys Leu Thr His Ser  Gly Tyr Gly
    2330                2335                2340

Asp Gly  Ser Asp
    2345
```