SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.
Gromada, Jesper
Stevis, Panayiotis
Altarejos, Judith

<120> Antigen-Binding Proteins That Antagonize Leptin Receptor

<130> 10271WO01

<140> TBD
<141> 2017-11-08

<150> 62/419,062
<151> 2016-11-08

<160> 95

<170> PatentIn version 3.5

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Arg Phe Tyr Gly Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
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Trp Ile Gly Asp Ile Tyr Tyr Ser Gly Asn Thr Tyr Tyr Asn Pro Ser
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Leu Gln Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe
65                  70                  75                  80

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95

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35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
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35 40 45

Ala Val Ile Ser Tyr Asp Gly Asn Asn Lys Tyr 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 Asp Leu Phe Leu Glu Trp Leu Phe His Gly Met Gly Val Trp
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35 40 45

Trp Ile Gly Asn Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr Ser Lys Ser Gln Phe
65 70 75 80

Ser Leu Lys Leu Arg Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Arg Leu Leu Arg Tyr Phe Asp Trp Ser Lys Gly Tyr Leu Asp
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Tyr Met Ser Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ser His Ile Ser Ile Thr Gly Ser Thr Ile Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Glu Met Asn Arg Leu Arg Asp Glu Asp Thr Ala Val Tyr Tyr Cys
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Thr Arg Asp Glu Pro Asp Ile Val Leu Val Arg Tyr Gly Met Asp Val
100 105 110

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Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Trp Asn Gly Gly Ile Thr Val Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr His Cys
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        35   40   45

Ser Ser Leu Ser Asp Ser Gly Asp Asn Thr Tyr 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 Asn Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Ala Lys Asp Leu Phe Ser Gly Trp Leu Phe His Gly Phe Asp Val Trp
            100   105   110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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20 25 30

Gly Ile Ser Trp Ile Arg Gln Ala Pro Gly His Gly Leu Glu Trp Met
35 40 45

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

Gln Gly Arg Leu Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Gly Thr Arg Pro Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
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20 25 30

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35 40 45

Ser Ser Ile Asn His Asn Gly Gly Ser Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe
65 70 75 80

Leu Gln Met Gly Ser Leu Lys Thr Glu Asp Met Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Leu Phe Leu Glu Trp Leu Phe His Gly Phe Asp Ile Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 73
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60

acctgttctg tctctggtgg ctccataaac actggttctt acttctggac ttggatccgc 120

cagcacccag gggagggcct ggagtggatt gggtacatct attacaatgg agacacctac 180

tacaatccgt ccctcaagag tcgagttacc ttatcactag acacgtctaa gaaccagttc 240

tccctgaagc tgaactctct gactgccggg gacacggccg tttattactg tgcgagaagt 300

gactggaact ccctttttga ccactggggc caggggaccc tggtcaccgt ctcctca 357

<210> 74
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 74

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

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

```
Ser Tyr Phe Trp Thr Trp Ile Arg Gln His Pro Gly Glu Gly Leu Glu
        35                  40                  45

Trp Ile Gly Tyr Ile Tyr Tyr Asn Gly Asp Thr Tyr Tyr Asn Pro Ser
    50                  55                  60

Leu Lys Ser Arg Val Thr Leu Ser Leu Asp Thr Ser Lys Asn Gln Phe
65                  70                  75                  80

Ser Leu Lys Leu Asn Ser Leu Thr Ala Gly Asp Thr Ala Val Tyr Tyr
                85                  90                  95

Cys Ala Arg Ser Asp Trp Asn Ser Leu Phe Asp His Trp Gly Gln Gly
            100                 105                 110

Thr Leu Val Thr Val Ser Ser
        115
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<210> 75
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 75
ggtggctcca taaacactgg ttcttacttc 30

<210> 76
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 76

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Gly Gly Ser Ile Asn Thr Gly Ser Tyr Phe
1               5                   10
```

<210> 77
<211> 21
<212> DNA

<213> Artificial Sequence

<220>
<223> synthetic

<400> 77
atctattaca atggagacac c 21

<210> 78
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 78

Ile Tyr Tyr Asn Gly Asp Thr
1 5

<210> 79
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 79
gcgagaagtg actggaactc ccttttttgac cac 33

<210> 80
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 80

Ala Arg Ser Asp Trp Asn Ser Leu Phe Asp His
1 5 10

<210> 81
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 81
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60

ctctcctgca gggccagtca gagtgttagc agcagctact tagcctggta ccagcagaaa 120

cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180

gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240

cctgaagatt ttgcagtgta ttactgtcag cagtatggta gctcaccttg gacgttcggc 300

caagggacca aggtggaaat caaa 324

<210> 82
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 82

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1   5   10   15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
            20   25   30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
        35   40   45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50   55   60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65   70   75   80

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

Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 83
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 83
cagagtgtta gcagcagcta c 21

<210> 84
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 84

Gln Ser Val Ser Ser Ser Tyr
1 5

<210> 85
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 85
ggtgcatcc 9

<210> 86
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 86

Gly Ala Ser
1

<210> 87

<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic

<400> 87
cagcagtatg gtagctcacc ttggacg 27

<210> 88
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic

<400> 88

Gln Gln Tyr Gly Ser Ser Pro Trp Thr
1 5

<210> 89
<211> 1165
<212> PRT
<213> Artificial Sequence

<220>
<223> hLEPR P48357

<400> 89

Met Ile Cys Gln Lys Phe Cys Val Val Leu Leu His Trp Glu Phe Ile
1 5 10 15

Tyr Val Ile Thr Ala Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg
20 25 30

Phe Lys Leu Ser Cys Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu
35 40 45

Leu Pro Ala Gly Leu Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr
50 55 60

Glu Thr Ala Val Glu Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser
65 70 75 80

```
Asn Leu Ser Lys Thr Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp
                85                  90                  95

Arg Asn Cys Ser Leu Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val
            100                 105                 110

Ser Thr Val Asn Ser Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn
        115                 120                 125

Ile Gln Cys Trp Leu Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val
    130                 135                 140

Glu Ser Leu Phe Lys Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His
145                 150                 155                 160

Leu Leu Tyr Val Leu Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro
                165                 170                 175

Gln Lys Gly Ser Phe Gln Met Val His Cys Asn Cys Ser Val His Glu
            180                 185                 190

Cys Cys Glu Cys Leu Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr
        195                 200                 205

Leu Leu Met Cys Leu Lys Ile Thr Ser Gly Gly Val Ile Phe Gln Ser
    210                 215                 220

Pro Leu Met Ser Val Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro
225                 230                 235                 240

Leu Gly Leu His Met Glu Ile Thr Asp Asp Gly Asn Leu Lys Ile Ser
                245                 250                 255

Trp Ser Ser Pro Pro Leu Val Pro Phe Pro Leu Gln Tyr Gln Val Lys
            260                 265                 270

Tyr Ser Glu Asn Ser Thr Thr Val Ile Arg Glu Ala Asp Lys Ile Val
        275                 280                 285

Ser Ala Thr Ser Leu Leu Val Asp Ser Ile Leu Pro Gly Ser Ser Tyr
```

```
    290                 295                 300

Glu Val Gln Val Arg Gly Lys Arg Leu Asp Gly Pro Gly Ile Trp Ser
305                 310                 315                 320

Asp Trp Ser Thr Pro Arg Val Phe Thr Thr Gln Asp Val Ile Tyr Phe
                325                 330                 335

Pro Pro Lys Ile Leu Thr Ser Val Gly Ser Asn Val Ser Phe His Cys
            340                 345                 350

Ile Tyr Lys Lys Glu Asn Lys Ile Val Pro Ser Lys Glu Ile Val Trp
        355                 360                 365

Trp Met Asn Leu Ala Glu Lys Ile Pro Gln Ser Gln Tyr Asp Val Val
    370                 375                 380

Ser Asp His Val Ser Lys Val Thr Phe Phe Asn Leu Asn Glu Thr Lys
385                 390                 395                 400

Pro Arg Gly Lys Phe Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu His
                405                 410                 415

Glu Cys His His Arg Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile
            420                 425                 430

Asn Ile Ser Cys Glu Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg
        435                 440                 445

Trp Ser Thr Ser Thr Ile Gln Ser Leu Ala Glu Ser Thr Leu Gln Leu
    450                 455                 460

Arg Tyr His Arg Ser Ser Leu Tyr Cys Ser Asp Ile Pro Ser Ile His
465                 470                 475                 480

Pro Ile Ser Glu Pro Lys Asp Cys Tyr Leu Gln Ser Asp Gly Phe Tyr
                485                 490                 495

Glu Cys Ile Phe Gln Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp
            500                 505                 510
```

```
Ile Arg Ile Asn His Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys
        515                 520                 525

Val Leu Pro Asp Ser Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys
    530                 535                 540

Ala Glu Ile Thr Ile Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys
545                 550                 555                 560

Pro Val Phe Pro Glu Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu
                565                 570                 575

Ser Gly Lys Glu Val Gln Trp Lys Met Tyr Glu Val Tyr Asp Ala Lys
            580                 585                 590

Ser Lys Ser Val Ser Leu Pro Val Pro Asp Leu Cys Ala Val Tyr Ala
        595                 600                 605

Val Gln Val Arg Cys Lys Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn
    610                 615                 620

Trp Ser Asn Pro Ala Tyr Thr Val Val Met Asp Ile Lys Val Pro Met
625                 630                 635                 640

Arg Gly Pro Glu Phe Trp Arg Ile Ile Asn Gly Asp Thr Met Lys Lys
                645                 650                 655

Glu Lys Asn Val Thr Leu Leu Trp Lys Pro Leu Met Lys Asn Asp Ser
            660                 665                 670

Leu Cys Ser Val Gln Arg Tyr Val Ile Asn His His Thr Ser Cys Asn
        675                 680                 685

Gly Thr Trp Ser Glu Asp Val Gly Asn His Thr Lys Phe Thr Phe Leu
    690                 695                 700

Trp Thr Glu Gln Ala His Thr Val Thr Val Leu Ala Ile Asn Ser Ile
705                 710                 715                 720

Gly Ala Ser Val Ala Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser
```

```
               725                 730                 735

Lys Val Asn Ile Val Gln Ser Leu Ser Ala Tyr Pro Leu Asn Ser Ser
            740                 745                 750

Cys Val Ile Val Ser Trp Ile Leu Ser Pro Ser Asp Tyr Lys Leu Met
        755                 760                 765

Tyr Phe Ile Ile Glu Trp Lys Asn Leu Asn Glu Asp Gly Glu Ile Lys
    770                 775                 780

Trp Leu Arg Ile Ser Ser Ser Val Lys Lys Tyr Tyr Ile His Asp His
785                 790                 795                 800

Phe Ile Pro Ile Glu Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met
                805                 810                 815

Glu Gly Val Gly Lys Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp
            820                 825                 830

Ile Glu Lys His Gln Ser Asp Ala Gly Leu Tyr Val Ile Val Pro Val
        835                 840                 845

Ile Ile Ser Ser Ser Ile Leu Leu Leu Gly Thr Leu Leu Ile Ser His
    850                 855                 860

Gln Arg Met Lys Lys Leu Phe Trp Glu Asp Val Pro Asn Pro Lys Asn
865                 870                 875                 880

Cys Ser Trp Ala Gln Gly Leu Asn Phe Gln Lys Pro Glu Thr Phe Glu
                885                 890                 895

His Leu Phe Ile Lys His Thr Ala Ser Val Thr Cys Gly Pro Leu Leu
            900                 905                 910

Leu Glu Pro Glu Thr Ile Ser Glu Asp Ile Ser Val Asp Thr Ser Trp
        915                 920                 925

Lys Asn Lys Asp Glu Met Met Pro Thr Thr Val Val Ser Leu Leu Ser
    930                 935                 940
```

```
Thr Thr Asp Leu Glu Lys Gly Ser Val Cys Ile Ser Asp Gln Phe Asn
945                 950                 955                 960


Ser Val Asn Phe Ser Glu Ala Glu Gly Thr Glu Val Thr Tyr Glu Asp
                965                 970                 975


Glu Ser Gln Arg Gln Pro Phe Val Lys Tyr Ala Thr Leu Ile Ser Asn
            980                 985                 990


Ser Lys Pro Ser Glu Thr Gly Glu  Glu Gln Gly Leu Ile  Asn Ser Ser
        995                 1000                1005


Val Thr  Lys Cys Phe Ser Ser  Lys Asn Ser Pro Leu  Lys Asp Ser
    1010                1015                1020


Phe Ser  Asn Ser Ser Trp Glu  Ile Glu Ala Gln Ala  Phe Phe Ile
    1025                1030                1035


Leu Ser  Asp Gln His Pro Asn  Ile Ile Ser Pro His  Leu Thr Phe
    1040                1045                1050


Ser Glu  Gly Leu Asp Glu Leu  Leu Lys Leu Glu Gly  Asn Phe Pro
    1055                1060                1065


Glu Glu  Asn Asn Asp Lys Lys  Ser Ile Tyr Tyr Leu  Gly Val Thr
    1070                1075                1080


Ser Ile  Lys Lys Arg Glu Ser  Gly Val Leu Leu Thr  Asp Lys Ser
    1085                1090                1095


Arg Val  Ser Cys Pro Phe Pro  Ala Pro Cys Leu Phe  Thr Asp Ile
    1100                1105                1110


Arg Val  Leu Gln Asp Ser Cys  Ser His Phe Val Glu  Asn Asn Ile
    1115                1120                1125


Asn Leu  Gly Thr Ser Ser Lys  Lys Thr Phe Ala Ser  Tyr Met Pro
    1130                1135                1140


Gln Phe  Gln Thr Cys Ser Thr  Gln Thr His Lys Ile  Met Glu Asn
```

```
    1145                1150                1155


Lys Met  Cys Asp Leu Thr Val
    1160                1165


<210>  90
<211>  846
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  hLEPR-mmh aa 1-818: F22-D839 of P48357 aa 819-846:
       myc-myc-hexahistidine tag

<400>  90

Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg Phe Lys Leu Ser Cys
1               5                   10                  15


Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu Leu Pro Ala Gly Leu
            20                  25                  30


Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr Glu Thr Ala Val Glu
        35                  40                  45


Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser Asn Leu Ser Lys Thr
    50                  55                  60


Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp Arg Asn Cys Ser Leu
65                  70                  75                  80


Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val Ser Thr Val Asn Ser
                85                  90                  95


Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn Ile Gln Cys Trp Leu
            100                 105                 110


Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val Glu Ser Leu Phe Lys
        115                 120                 125


Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His Leu Leu Tyr Val Leu
    130                 135                 140
```

```
Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro Gln Lys Gly Ser Phe
145                 150                 155                 160


Gln Met Val His Cys Asn Cys Ser Val His Glu Cys Cys Glu Cys Leu
                165                 170                 175


Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr Leu Leu Met Cys Leu
            180                 185                 190


Lys Ile Thr Ser Gly Gly Val Ile Phe Gln Ser Pro Leu Met Ser Val
        195                 200                 205


Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
    210                 215                 220


Glu Ile Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Ser Ser Pro Pro
225                 230                 235                 240


Leu Val Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Ser Glu Asn Ser
                245                 250                 255


Thr Thr Val Ile Arg Glu Ala Asp Lys Ile Val Ser Ala Thr Ser Leu
            260                 265                 270


Leu Val Asp Ser Ile Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg
        275                 280                 285


Gly Lys Arg Leu Asp Gly Pro Gly Ile Trp Ser Asp Trp Ser Thr Pro
    290                 295                 300


Arg Val Phe Thr Thr Gln Asp Val Ile Tyr Phe Pro Pro Lys Ile Leu
305                 310                 315                 320


Thr Ser Val Gly Ser Asn Val Ser Phe His Cys Ile Tyr Lys Lys Glu
                325                 330                 335


Asn Lys Ile Val Pro Ser Lys Glu Ile Val Trp Trp Met Asn Leu Ala
            340                 345                 350


Glu Lys Ile Pro Gln Ser Gln Tyr Asp Val Val Ser Asp His Val Ser
        355                 360                 365
```

```
Lys Val Thr Phe Phe Asn Leu Asn Glu Thr Lys Pro Arg Gly Lys Phe
    370                 375                 380

Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu His Glu Cys His His Arg
385                 390                 395                 400

Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu
                405                 410                 415

Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Thr Ser Thr
            420                 425                 430

Ile Gln Ser Leu Ala Glu Ser Thr Leu Gln Leu Arg Tyr His Arg Ser
        435                 440                 445

Ser Leu Tyr Cys Ser Asp Ile Pro Ser Ile His Pro Ile Ser Glu Pro
    450                 455                 460

Lys Asp Cys Tyr Leu Gln Ser Asp Gly Phe Tyr Glu Cys Ile Phe Gln
465                 470                 475                 480

Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His
                485                 490                 495

Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser
            500                 505                 510

Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys Ala Glu Ile Thr Ile
        515                 520                 525

Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys Pro Val Phe Pro Glu
    530                 535                 540

Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Val
545                 550                 555                 560

Gln Trp Lys Met Tyr Glu Val Tyr Asp Ala Lys Ser Lys Ser Val Ser
                565                 570                 575
```

```
Leu Pro Val Pro Asp Leu Cys Ala Val Tyr Ala Val Gln Val Arg Cys
            580                 585                 590

Lys Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Asn Pro Ala
        595                 600                 605

Tyr Thr Val Val Met Asp Ile Lys Val Pro Met Arg Gly Pro Glu Phe
    610                 615                 620

Trp Arg Ile Ile Asn Gly Asp Thr Met Lys Lys Glu Lys Asn Val Thr
625                 630                 635                 640

Leu Leu Trp Lys Pro Leu Met Lys Asn Asp Ser Leu Cys Ser Val Gln
                645                 650                 655

Arg Tyr Val Ile Asn His His Thr Ser Cys Asn Gly Thr Trp Ser Glu
            660                 665                 670

Asp Val Gly Asn His Thr Lys Phe Thr Phe Leu Trp Thr Glu Gln Ala
        675                 680                 685

His Thr Val Thr Val Leu Ala Ile Asn Ser Ile Gly Ala Ser Val Ala
    690                 695                 700

Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Asn Ile Val
705                 710                 715                 720

Gln Ser Leu Ser Ala Tyr Pro Leu Asn Ser Ser Cys Val Ile Val Ser
                725                 730                 735

Trp Ile Leu Ser Pro Ser Asp Tyr Lys Leu Met Tyr Phe Ile Ile Glu
            740                 745                 750

Trp Lys Asn Leu Asn Glu Asp Gly Glu Ile Lys Trp Leu Arg Ile Ser
        755                 760                 765

Ser Ser Val Lys Lys Tyr Tyr Ile His Asp His Phe Ile Pro Ile Glu
    770                 775                 780

Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met Glu Gly Val Gly Lys
785                 790                 795                 800
```

```
Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp Ile Glu Lys His Gln
                805                 810                 815


Ser Asp Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln
            820                 825                 830


Lys Leu Ile Ser Glu Glu Asp Leu His His His His His His
        835                 840                 845


<210>  91
<211>  1051
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  hLEPR-mFc aa 1-818: F22-D839 of P48357 aa 819-1051: mouse IgG2a
       (E98-K330 of P01863)

<400>  91

Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg Phe Lys Leu Ser Cys
1               5                   10                  15


Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu Leu Pro Ala Gly Leu
            20                  25                  30


Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr Glu Thr Ala Val Glu
        35                  40                  45


Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser Asn Leu Ser Lys Thr
    50                  55                  60


Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp Arg Asn Cys Ser Leu
65                  70                  75                  80


Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val Ser Thr Val Asn Ser
                85                  90                  95


Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn Ile Gln Cys Trp Leu
            100                 105                 110


Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val Glu Ser Leu Phe Lys
```

```
        115                 120                 125

Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His Leu Leu Tyr Val Leu
    130                 135                 140

Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro Gln Lys Gly Ser Phe
145                 150                 155                 160

Gln Met Val His Cys Asn Cys Ser Val His Glu Cys Cys Glu Cys Leu
                165                 170                 175

Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr Leu Leu Met Cys Leu
            180                 185                 190

Lys Ile Thr Ser Gly Gly Val Ile Phe Gln Ser Pro Leu Met Ser Val
        195                 200                 205

Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
    210                 215                 220

Glu Ile Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Ser Ser Pro Pro
225                 230                 235                 240

Leu Val Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Ser Glu Asn Ser
                245                 250                 255

Thr Thr Val Ile Arg Glu Ala Asp Lys Ile Val Ser Ala Thr Ser Leu
            260                 265                 270

Leu Val Asp Ser Ile Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg
        275                 280                 285

Gly Lys Arg Leu Asp Gly Pro Gly Ile Trp Ser Asp Trp Ser Thr Pro
    290                 295                 300

Arg Val Phe Thr Thr Gln Asp Val Ile Tyr Phe Pro Pro Lys Ile Leu
305                 310                 315                 320

Thr Ser Val Gly Ser Asn Val Ser Phe His Cys Ile Tyr Lys Lys Glu
                325                 330                 335
```

```
Asn Lys Ile Val Pro Ser Lys Glu Ile Val Trp Trp Met Asn Leu Ala
            340                 345                 350

Glu Lys Ile Pro Gln Ser Gln Tyr Asp Val Val Ser Asp His Val Ser
        355                 360                 365

Lys Val Thr Phe Phe Asn Leu Asn Glu Thr Lys Pro Arg Gly Lys Phe
    370                 375                 380

Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu His Glu Cys His His Arg
385                 390                 395                 400

Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu
                405                 410                 415

Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Thr Ser Thr
            420                 425                 430

Ile Gln Ser Leu Ala Glu Ser Thr Leu Gln Leu Arg Tyr His Arg Ser
        435                 440                 445

Ser Leu Tyr Cys Ser Asp Ile Pro Ser Ile His Pro Ile Ser Glu Pro
    450                 455                 460

Lys Asp Cys Tyr Leu Gln Ser Asp Gly Phe Tyr Glu Cys Ile Phe Gln
465                 470                 475                 480

Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His
                485                 490                 495

Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser
            500                 505                 510

Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys Ala Glu Ile Thr Ile
        515                 520                 525

Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys Pro Val Phe Pro Glu
    530                 535                 540

Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Val
```

```
545                 550                 555                 560

Gln Trp Lys Met Tyr Glu Val Tyr Asp Ala Lys Ser Lys Ser Val Ser
                565                 570                 575

Leu Pro Val Pro Asp Leu Cys Ala Val Tyr Ala Val Gln Val Arg Cys
            580                 585                 590

Lys Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Asn Pro Ala
        595                 600                 605

Tyr Thr Val Val Met Asp Ile Lys Val Pro Met Arg Gly Pro Glu Phe
    610                 615                 620

Trp Arg Ile Ile Asn Gly Asp Thr Met Lys Lys Glu Lys Asn Val Thr
625                 630                 635                 640

Leu Leu Trp Lys Pro Leu Met Lys Asn Asp Ser Leu Cys Ser Val Gln
                645                 650                 655

Arg Tyr Val Ile Asn His His Thr Ser Cys Asn Gly Thr Trp Ser Glu
            660                 665                 670

Asp Val Gly Asn His Thr Lys Phe Thr Phe Leu Trp Thr Glu Gln Ala
        675                 680                 685

His Thr Val Thr Val Leu Ala Ile Asn Ser Ile Gly Ala Ser Val Ala
    690                 695                 700

Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Asn Ile Val
705                 710                 715                 720

Gln Ser Leu Ser Ala Tyr Pro Leu Asn Ser Ser Cys Val Ile Val Ser
                725                 730                 735

Trp Ile Leu Ser Pro Ser Asp Tyr Lys Leu Met Tyr Phe Ile Ile Glu
            740                 745                 750

Trp Lys Asn Leu Asn Glu Asp Gly Glu Ile Lys Trp Leu Arg Ile Ser
        755                 760                 765
```

```
Ser Ser Val Lys Lys Tyr Tyr Ile His Asp His Phe Ile Pro Ile Glu
    770                 775                 780

Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met Glu Gly Val Gly Lys
785                 790                 795                 800

Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp Ile Glu Lys His Gln
                805                 810                 815

Ser Asp Glu Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys
            820                 825                 830

Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro
        835                 840                 845

Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile Val Thr
    850                 855                 860

Cys Val Val Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln Ile Ser
865                 870                 875                 880

Trp Phe Val Asn Asn Val Glu Val His Thr Ala Gln Thr Gln Thr His
                885                 890                 895

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

Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys Val Asn
        915                 920                 925

Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys
    930                 935                 940

Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro Glu Glu
945                 950                 955                 960

Glu Met Thr Lys Lys Gln Val Thr Leu Thr Cys Met Val Thr Asp Phe
                965                 970                 975

Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu
```

```
            980                 985                 990

Leu Asn Tyr Lys Asn Thr Glu Pro  Val Leu Asp Ser Asp  Gly Ser Tyr
        995                 1000                1005

Phe Met  Tyr Ser Lys Leu Arg  Val Glu Lys Lys Asn  Trp Val Glu
    1010                1015                1020

Arg Asn  Ser Tyr Ser Cys Ser  Val Val His Glu Gly  Leu His Asn
    1025                1030                1035

His His  Thr Thr Lys Ser Phe  Ser Arg Thr Pro Gly  Lys
    1040                1045                1050
```

<210> 92
<211> 1045
<212> PRT
<213> Artificial Sequence

<220>
<223> hLEPR-hFc aa 1-818: F22-D839 of P48357 aa 819-1045: human IgG1 (D104-K330 of P01857)

<400> 92

```
Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg Phe Lys Leu Ser Cys
1               5                   10                  15

Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu Leu Pro Ala Gly Leu
            20                  25                  30

Ser Lys Asn Thr Ser Asn Ser Asn Gly His Tyr Glu Thr Ala Val Glu
        35                  40                  45

Pro Lys Phe Asn Ser Ser Gly Thr His Phe Ser Asn Leu Ser Lys Thr
    50                  55                  60

Thr Phe His Cys Cys Phe Arg Ser Glu Gln Asp Arg Asn Cys Ser Leu
65                  70                  75                  80

Cys Ala Asp Asn Ile Glu Gly Lys Thr Phe Val Ser Thr Val Asn Ser
                85                  90                  95
```

```
Leu Val Phe Gln Gln Ile Asp Ala Asn Trp Asn Ile Gln Cys Trp Leu
            100                 105                 110

Lys Gly Asp Leu Lys Leu Phe Ile Cys Tyr Val Glu Ser Leu Phe Lys
        115                 120                 125

Asn Leu Phe Arg Asn Tyr Asn Tyr Lys Val His Leu Leu Tyr Val Leu
    130                 135                 140

Pro Glu Val Leu Glu Asp Ser Pro Leu Val Pro Gln Lys Gly Ser Phe
145                 150                 155                 160

Gln Met Val His Cys Asn Cys Ser Val His Glu Cys Cys Glu Cys Leu
                165                 170                 175

Val Pro Val Pro Thr Ala Lys Leu Asn Asp Thr Leu Leu Met Cys Leu
            180                 185                 190

Lys Ile Thr Ser Gly Gly Val Ile Phe Gln Ser Pro Leu Met Ser Val
        195                 200                 205

Gln Pro Ile Asn Met Val Lys Pro Asp Pro Pro Leu Gly Leu His Met
    210                 215                 220

Glu Ile Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Ser Ser Pro Pro
225                 230                 235                 240

Leu Val Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Ser Glu Asn Ser
                245                 250                 255

Thr Thr Val Ile Arg Glu Ala Asp Lys Ile Val Ser Ala Thr Ser Leu
            260                 265                 270

Leu Val Asp Ser Ile Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg
        275                 280                 285

Gly Lys Arg Leu Asp Gly Pro Gly Ile Trp Ser Asp Trp Ser Thr Pro
    290                 295                 300

Arg Val Phe Thr Thr Gln Asp Val Ile Tyr Phe Pro Pro Lys Ile Leu
305                 310                 315                 320
```

```
Thr Ser Val Gly Ser Asn Val Ser Phe His Cys Ile Tyr Lys Lys Glu
               325                 330                 335

Asn Lys Ile Val Pro Ser Lys Glu Ile Val Trp Trp Met Asn Leu Ala
            340                 345                 350

Glu Lys Ile Pro Gln Ser Gln Tyr Asp Val Val Ser Asp His Val Ser
        355                 360                 365

Lys Val Thr Phe Phe Asn Leu Asn Glu Thr Lys Pro Arg Gly Lys Phe
    370                 375                 380

Thr Tyr Asp Ala Val Tyr Cys Cys Asn Glu His Glu Cys His His Arg
385                 390                 395                 400

Tyr Ala Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu
               405                 410                 415

Thr Asp Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Thr Ser Thr
            420                 425                 430

Ile Gln Ser Leu Ala Glu Ser Thr Leu Gln Leu Arg Tyr His Arg Ser
        435                 440                 445

Ser Leu Tyr Cys Ser Asp Ile Pro Ser Ile His Pro Ile Ser Glu Pro
    450                 455                 460

Lys Asp Cys Tyr Leu Gln Ser Asp Gly Phe Tyr Glu Cys Ile Phe Gln
465                 470                 475                 480

Pro Ile Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His
               485                 490                 495

Ser Leu Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser
            500                 505                 510

Val Val Lys Pro Leu Pro Pro Ser Ser Val Lys Ala Glu Ile Thr Ile
        515                 520                 525
```

```
Asn Ile Gly Leu Leu Lys Ile Ser Trp Glu Lys Pro Val Phe Pro Glu
    530                 535                 540

Asn Asn Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Val
545                 550                 555                 560

Gln Trp Lys Met Tyr Glu Val Tyr Asp Ala Lys Ser Lys Ser Val Ser
                565                 570                 575

Leu Pro Val Pro Asp Leu Cys Ala Val Tyr Ala Val Gln Val Arg Cys
            580                 585                 590

Lys Arg Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Asn Pro Ala
        595                 600                 605

Tyr Thr Val Val Met Asp Ile Lys Val Pro Met Arg Gly Pro Glu Phe
    610                 615                 620

Trp Arg Ile Ile Asn Gly Asp Thr Met Lys Lys Glu Lys Asn Val Thr
625                 630                 635                 640

Leu Leu Trp Lys Pro Leu Met Lys Asn Asp Ser Leu Cys Ser Val Gln
                645                 650                 655

Arg Tyr Val Ile Asn His His Thr Ser Cys Asn Gly Thr Trp Ser Glu
            660                 665                 670

Asp Val Gly Asn His Thr Lys Phe Thr Phe Leu Trp Thr Glu Gln Ala
        675                 680                 685

His Thr Val Thr Val Leu Ala Ile Asn Ser Ile Gly Ala Ser Val Ala
    690                 695                 700

Asn Phe Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Asn Ile Val
705                 710                 715                 720

Gln Ser Leu Ser Ala Tyr Pro Leu Asn Ser Ser Cys Val Ile Val Ser
                725                 730                 735

Trp Ile Leu Ser Pro Ser Asp Tyr Lys Leu Met Tyr Phe Ile Ile Glu
            740                 745                 750
```

```
Trp Lys Asn Leu Asn Glu Asp Gly Glu Ile Lys Trp Leu Arg Ile Ser
        755                 760                 765

Ser Ser Val Lys Lys Tyr Tyr Ile His Asp His Phe Ile Pro Ile Glu
    770                 775                 780

Lys Tyr Gln Phe Ser Leu Tyr Pro Ile Phe Met Glu Gly Val Gly Lys
785                 790                 795                 800

Pro Lys Ile Ile Asn Ser Phe Thr Gln Asp Asp Ile Glu Lys His Gln
                805                 810                 815

Ser Asp Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu
            820                 825                 830

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
        835                 840                 845

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
    850                 855                 860

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
865                 870                 875                 880

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
                885                 890                 895

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
            900                 905                 910

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
        915                 920                 925

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
    930                 935                 940

Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln
945                 950                 955                 960
```

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

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
980 985 990

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
995 1000 1005

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
1010 1015 1020

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
1025 1030 1035

Leu Ser Leu Ser Pro Gly Lys
1040 1045

<210> 93
<211> 844
<212> PRT
<213> Artificial Sequence

<220>
<223> MfLEPR-mmh aa 1-816: Macaca fascicularis LEPR (F22-D837 of XP_005543194.1 with a T827A substitution) aa 817-844: myc-myc-hexahistidine tag

<400> 93

Phe Asn Leu Ser Tyr Pro Ile Thr Pro Trp Arg Phe Lys Leu Ser Cys
1 5 10 15

Met Pro Pro Asn Ser Thr Tyr Asp Tyr Phe Leu Leu Pro Ala Gly Leu
20 25 30

Ser Lys Asn Thr Ser Asn Leu Asn Gly His Tyr Glu Thr Ala Val Glu
35 40 45

Phe Asn Ser Ser Asp Thr His Phe Ser Asn Leu Ser Lys Thr Thr Phe
50 55 60

His Cys Cys Phe Arg Ser Glu Gln Asp Arg Asn Cys Ser Leu Cys Ala
65 70 75 80

```
Asp Asn Ile Glu Gly Lys Thr Phe Val Ser Thr Val Asn Ser Ser Val
                85                  90                  95

Phe Gln Gln Met Gly Ala Asn Trp Asn Ile Gln Cys Trp Leu Lys Gly
            100                 105                 110

Asp Leu Lys Leu Phe Ile Cys Tyr Val Glu Ser Leu Phe Lys Asn Pro
        115                 120                 125

Phe Lys Asn Tyr Lys His Lys Val His Leu Leu Tyr Val Leu Pro Glu
    130                 135                 140

Val Leu Glu Asp Ser Pro Leu Val Pro Gln Lys Gly Ser Phe Gln Met
145                 150                 155                 160

Val His Cys Asn Cys Ser Val His Glu Arg Cys Glu Cys Leu Val Pro
                165                 170                 175

Val Pro Thr Ala Lys Leu Asn Asp Thr Leu Leu Met Cys Leu Lys Ile
            180                 185                 190

Thr Ser Gly Gly Val Ile Phe Gln Ser Pro Leu Met Ser Val Gln Pro
        195                 200                 205

Ile Asn Met Val Lys Pro Asp Pro Pro Leu Gly Leu Arg Met Glu Ile
    210                 215                 220

Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Ser Ser Pro Pro Leu Val
225                 230                 235                 240

Pro Phe Pro Leu Gln Tyr Glu Val Lys Tyr Ser Glu Asn Ser Thr Thr
                245                 250                 255

Val Ile Arg Glu Ala Asp Lys Ile Val Ser Ala Thr Ser Leu Leu Val
            260                 265                 270

Asp Gly Ile Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Gly Lys
        275                 280                 285
```

```
Arg Leu Asp Gly Pro Gly Ile Trp Ser Asp Trp Ser Thr Pro His Val
    290                 295                 300

Phe Thr Thr Gln Asp Val Ile Tyr Phe Pro Pro Lys Ile Leu Thr Ser
305                 310                 315                 320

Val Gly Ser Asn Val Ser Phe His Cys Ile Tyr Lys Asn Glu Asn Lys
                325                 330                 335

Ile Val Ser Ser Lys Lys Ile Val Trp Trp Met Asn Leu Ala Glu Lys
            340                 345                 350

Ile Pro Gln Ser Gln Tyr Asp Val Val Ser Asp His Val Ser Lys Val
        355                 360                 365

Thr Phe Phe Asn Leu Asn Glu Thr Lys Pro Arg Gly Lys Phe Thr Tyr
    370                 375                 380

Asp Ala Val Tyr Cys Cys Asn Glu His Glu Cys His His Arg Tyr Ala
385                 390                 395                 400

Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp
                405                 410                 415

Gly His Leu Thr Lys Met Thr Cys Arg Trp Ser Thr Asn Thr Ile Gln
            420                 425                 430

Ser Leu Ala Gly Ser Thr Leu Gln Leu Arg Tyr Arg Arg Ser Ser Leu
        435                 440                 445

Tyr Cys Phe Asp Ile Pro Ser Ile His Pro Ile Ser Lys Pro Lys Asp
    450                 455                 460

Cys Tyr Leu Gln Ser Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile
465                 470                 475                 480

Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Pro Leu
                485                 490                 495

Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val
            500                 505                 510
```

```
Lys Pro Leu Pro Pro Ser Ser Val Lys Ala Glu Ile Ile Lys Asn Ile
        515                 520                 525

Gly Leu Leu Lys Ile Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn
    530                 535                 540

Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp
545                 550                 555                 560

Lys Met Tyr Asp Val Tyr Asp Ala Lys Ser Lys Ser Val Ser Leu Pro
                565                 570                 575

Val Pro Asp Phe Cys Ala Val Tyr Ala Val Gln Val Arg Cys Lys Arg
            580                 585                 590

Ser Asp Gly Leu Gly Leu Trp Ser Asn Trp Ser Asn Pro Ala Tyr Thr
        595                 600                 605

Val Val Met Asp Ile Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg
    610                 615                 620

Ile Ile Asn Gly Asp Thr Met Lys Lys Glu Lys Asn Val Thr Leu Leu
625                 630                 635                 640

Trp Lys Pro Leu Met Lys Asn Asp Ser Leu Cys Ser Val Gln Arg Tyr
                645                 650                 655

Val Ile Asn His His Thr Ser Cys Asn Gly Thr Trp Ser Glu Asp Val
            660                 665                 670

Gly Asn His Thr Lys Phe Thr Phe Leu Trp Thr Glu Gln Ala His Thr
        675                 680                 685

Val Thr Val Leu Ala Ile Asn Ser Ile Gly Ala Ser Val Ala Asn Phe
    690                 695                 700

Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Asn Ile Val Gln Ser
705                 710                 715                 720
```

```
Leu Ser Ala Tyr Pro Leu Asn Ser Ser Cys Val Ile Leu Ser Trp Ile
                725                 730                 735


Leu Ser Pro Ser Asp Tyr Lys Leu Met Tyr Phe Ile Ile Glu Trp Lys
            740                 745                 750


Asn Leu Asn Glu Asp Gly Glu Ile Lys Trp Leu Arg Ile Ser Ser Ser
        755                 760                 765


Val Lys Lys Tyr Tyr Ile His Asp His Phe Ile Pro Ile Glu Lys Tyr
    770                 775                 780


Gln Phe Ser Leu Tyr Pro Ile Phe Met Glu Gly Val Gly Lys Pro Lys
785                 790                 795                 800


Ile Ile Asn Ser Phe Ala Gln Asp Asn Thr Glu Lys His Gln Asn Asp
                805                 810                 815


Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln Lys Leu
            820                 825                 830


Ile Ser Glu Glu Asp Leu His His His His His His
        835                 840
```

<210> 94
<211> 846
<212> PRT
<213> Artificial Sequence

<220>
<223> mLEPR-mmh aa 1-818: mouse LEPR (L22-G839 of NP_666258.2) aa 819-846: myc-myc-hexahistidine tag

<400> 94

```
Leu Asn Leu Ala Tyr Pro Ile Ser Pro Trp Lys Phe Lys Leu Phe Cys
1               5                   10                  15


Gly Pro Pro Asn Thr Thr Asp Asp Ser Phe Leu Ser Pro Ala Gly Ala
            20                  25                  30


Pro Asn Asn Ala Ser Ala Leu Lys Gly Ala Ser Glu Ala Ile Val Glu
        35                  40                  45
```

```
Ala Lys Phe Asn Ser Ser Gly Ile Tyr Val Pro Glu Leu Ser Lys Thr
    50                  55                  60

Val Phe His Cys Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala
65                  70                  75                  80

Leu Thr Asp Asn Thr Glu Gly Lys Thr Leu Ala Ser Val Val Lys Ala
                85                  90                  95

Ser Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met
            100                 105                 110

Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Pro Lys
        115                 120                 125

Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu
    130                 135                 140

Pro Glu Val Ile Asp Asp Ser Pro Leu Pro Pro Leu Lys Asp Ser Phe
145                 150                 155                 160

Gln Thr Val Gln Cys Asn Cys Ser Leu Arg Gly Cys Glu Cys His Val
                165                 170                 175

Pro Val Pro Arg Ala Lys Leu Asn Tyr Ala Leu Leu Met Tyr Leu Glu
            180                 185                 190

Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln
        195                 200                 205

Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu His Met Glu
    210                 215                 220

Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Met
225                 230                 235                 240

Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr
                245                 250                 255

Ile Val Arg Glu Ala Ala Glu Ile Val Ser Ala Thr Ser Leu Leu Val
```

```
            260                 265                 270

Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys
        275                 280                 285

Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Ser Pro Gln Val
    290                 295                 300

Phe Thr Thr Gln Asp Val Val Tyr Phe Pro Pro Lys Ile Leu Thr Ser
305                 310                 315                 320

Val Gly Ser Asn Ala Ser Phe His Cys Ile Tyr Lys Asn Glu Asn Gln
                325                 330                 335

Ile Ile Ser Ser Lys Gln Ile Val Trp Trp Arg Asn Leu Ala Glu Lys
            340                 345                 350

Ile Pro Glu Ile Gln Tyr Ser Ile Val Ser Asp Arg Val Ser Lys Val
        355                 360                 365

Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr
    370                 375                 380

Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr Ala
385                 390                 395                 400

Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp
                405                 410                 415

Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln
            420                 425                 430

Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser Leu
        435                 440                 445

Tyr Cys Pro Asp Ser Pro Ser Ile His Pro Thr Ser Glu Pro Lys Asn
    450                 455                 460

Cys Val Leu Gln Arg Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile
465                 470                 475                 480
```

```
Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu
                485                 490                 495

Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val
            500                 505                 510

Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Val Asn Thr
        515                 520                 525

Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn
    530                 535                 540

Leu Gln Phe Gln Ile Arg Tyr Gly Leu Ser Gly Lys Glu Ile Gln Trp
545                 550                 555                 560

Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu Leu
                565                 570                 575

Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg Arg
            580                 585                 590

Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr
        595                 600                 605

Leu Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg
    610                 615                 620

Lys Met Asp Gly Asp Val Thr Lys Lys Glu Arg Asn Val Thr Leu Leu
625                 630                 635                 640

Trp Lys Pro Leu Thr Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr
                645                 650                 655

Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Glu Asp Val
            660                 665                 670

Gly Asn Arg Thr Asn Leu Thr Phe Leu Trp Thr Glu Pro Ala His Thr
        675                 680                 685

Val Thr Val Leu Ala Val Asn Ser Leu Gly Ala Ser Leu Val Asn Phe
```

```
    690                 695                 700

Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Ser Ala Val Glu Ser
705                 710                 715                 720

Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr
                725                 730                 735

Leu Ser Pro Asp Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys
            740                 745                 750

Ile Leu Asn Glu Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn
        755                 760                 765

Val Lys Lys Phe Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr
    770                 775                 780

Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys
785                 790                 795                 800

Ile Ile Asn Gly Phe Thr Lys Asp Ala Ile Asp Lys Gln Gln Asn Asp
                805                 810                 815

Ala Gly Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln
            820                 825                 830

Lys Leu Ile Ser Glu Glu Asp Leu His His His His His His
        835                 840                 845


<210>  95
<211>  846
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  rLEPR-mmh aa 1-818: rat LEPR (L22-G839 of NP_036728.1) aa
       819-846: myc-myc-hexahistidine tag

<400>  95

Leu Asn Leu Ala Tyr Pro Thr Ser Pro Trp Arg Phe Lys Leu Phe Cys
1               5                   10                  15
```

```
Ala Pro Pro Ser Thr Thr Asp Asp Ser Phe Leu Ser Pro Ala Gly Val
            20                  25                  30

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

Ala Lys Phe Asn Ser Thr Gly Ile Tyr Val Ser Glu Leu Ser Lys Thr
    50                  55                  60

Ile Phe His Cys Cys Phe Gly Asn Glu Gln Gly Gln Asn Cys Ser Ala
65                  70                  75                  80

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

Leu Val Phe Arg Gln Leu Gly Val Asn Trp Asp Ile Glu Cys Trp Met
            100                 105                 110

Lys Gly Asp Leu Thr Leu Phe Ile Cys His Met Glu Pro Leu Leu Lys
        115                 120                 125

Asn Pro Phe Lys Asn Tyr Asp Ser Lys Val His Leu Leu Tyr Asp Leu
    130                 135                 140

Pro Glu Val Ile Asp Asp Leu Pro Leu Pro Pro Leu Lys Asp Ser Phe
145                 150                 155                 160

Gln Thr Val Gln Cys Asn Cys Ser Val Arg Glu Cys Glu Cys His Val
                165                 170                 175

Pro Val Pro Arg Ala Lys Val Asn Tyr Ala Leu Leu Met Tyr Leu Glu
            180                 185                 190

Ile Thr Ser Ala Gly Val Ser Phe Gln Ser Pro Leu Met Ser Leu Gln
        195                 200                 205

Pro Met Leu Val Val Lys Pro Asp Pro Pro Leu Gly Leu Arg Met Glu
    210                 215                 220

Val Thr Asp Asp Gly Asn Leu Lys Ile Ser Trp Asp Ser Gln Thr Lys
225                 230                 235                 240
```

```
Ala Pro Phe Pro Leu Gln Tyr Gln Val Lys Tyr Leu Glu Asn Ser Thr
                245                 250                 255

Ile Val Arg Glu Ala Ala Glu Ile Val Ser Asp Thr Ser Leu Leu Val
            260                 265                 270

Asp Ser Val Leu Pro Gly Ser Ser Tyr Glu Val Gln Val Arg Ser Lys
        275                 280                 285

Arg Leu Asp Gly Ser Gly Val Trp Ser Asp Trp Ser Leu Pro Gln Leu
    290                 295                 300

Phe Thr Thr Gln Asp Val Met Tyr Phe Pro Pro Lys Ile Leu Thr Ser
305                 310                 315                 320

Val Gly Ser Asn Ala Ser Phe Cys Cys Ile Tyr Lys Asn Glu Asn Gln
                325                 330                 335

Thr Ile Ser Ser Lys Gln Ile Val Trp Trp Met Asn Leu Ala Glu Lys
            340                 345                 350

Ile Pro Glu Thr Gln Tyr Asn Thr Val Ser Asp His Ile Ser Lys Val
        355                 360                 365

Thr Phe Ser Asn Leu Lys Ala Thr Arg Pro Arg Gly Lys Phe Thr Tyr
    370                 375                 380

Asp Ala Val Tyr Cys Cys Asn Glu Gln Ala Cys His His Arg Tyr Ala
385                 390                 395                 400

Glu Leu Tyr Val Ile Asp Val Asn Ile Asn Ile Ser Cys Glu Thr Asp
                405                 410                 415

Gly Tyr Leu Thr Lys Met Thr Cys Arg Trp Ser Pro Ser Thr Ile Gln
            420                 425                 430

Ser Leu Val Gly Ser Thr Val Gln Leu Arg Tyr His Arg Arg Ser Leu
        435                 440                 445
```

```
Tyr Cys Pro Asp Asn Pro Ser Ile Arg Pro Thr Ser Glu Leu Lys Asn
    450                 455                 460

Cys Val Leu Gln Thr Asp Gly Phe Tyr Glu Cys Val Phe Gln Pro Ile
465                 470                 475                 480

Phe Leu Leu Ser Gly Tyr Thr Met Trp Ile Arg Ile Asn His Ser Leu
                485                 490                 495

Gly Ser Leu Asp Ser Pro Pro Thr Cys Val Leu Pro Asp Ser Val Val
            500                 505                 510

Lys Pro Leu Pro Pro Ser Asn Val Lys Ala Glu Ile Thr Ile Asn Thr
        515                 520                 525

Gly Leu Leu Lys Val Ser Trp Glu Lys Pro Val Phe Pro Glu Asn Asn
    530                 535                 540

Leu Gln Phe Gln Ile Arg Tyr Gly Leu Asn Gly Lys Glu Ile Gln Trp
545                 550                 555                 560

Lys Thr His Glu Val Phe Asp Ala Lys Ser Lys Ser Ala Ser Leu Pro
                565                 570                 575

Val Ser Asp Leu Cys Ala Val Tyr Val Val Gln Val Arg Cys Arg Arg
            580                 585                 590

Leu Asp Gly Leu Gly Tyr Trp Ser Asn Trp Ser Ser Pro Ala Tyr Thr
        595                 600                 605

Leu Val Met Asp Val Lys Val Pro Met Arg Gly Pro Glu Phe Trp Arg
    610                 615                 620

Ile Met Asp Gly Asp Ile Thr Lys Lys Glu Arg Asn Val Thr Leu Leu
625                 630                 635                 640

Trp Lys Pro Leu Met Lys Asn Asp Ser Leu Cys Ser Val Arg Arg Tyr
                645                 650                 655

Val Val Lys His Arg Thr Ala His Asn Gly Thr Trp Ser Gln Asp Val
            660                 665                 670
```

```
Gly Asn Gln Thr Asn Leu Thr Phe Leu Trp Ala Glu Ser Ala His Thr
        675                 680                 685

Val Thr Val Leu Ala Ile Asn Ser Ile Gly Ala Ser Leu Val Asn Phe
    690                 695                 700

Asn Leu Thr Phe Ser Trp Pro Met Ser Lys Val Asn Ala Val Gln Ser
705                 710                 715                 720

Leu Ser Ala Tyr Pro Leu Ser Ser Ser Cys Val Ile Leu Ser Trp Thr
                725                 730                 735

Leu Ser Pro Asn Asp Tyr Ser Leu Leu Tyr Leu Val Ile Glu Trp Lys
            740                 745                 750

Asn Leu Asn Asp Asp Asp Gly Met Lys Trp Leu Arg Ile Pro Ser Asn
        755                 760                 765

Val Asn Lys Tyr Tyr Ile His Asp Asn Phe Ile Pro Ile Glu Lys Tyr
    770                 775                 780

Gln Phe Ser Leu Tyr Pro Val Phe Met Glu Gly Val Gly Lys Pro Lys
785                 790                 795                 800

Ile Ile Asn Gly Phe Thr Lys Asp Asp Ile Ala Lys Gln Gln Asn Asp
                805                 810                 815

Ala Gly Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln
            820                 825                 830

Lys Leu Ile Ser Glu Glu Asp Leu His His His His His His
        835                 840                 845
```