SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> HOST CELL PROTEIN MODIFICATION

<130> 10143WO01

<140> PCT Filed herewith
<141> 2016-02-26

<150> US 62/126,213
<151> 2015-02-27

<150> US 62/298,869
<151> 2016-02-23

<160> 60

<170> PatentIn version 3.5

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Arg

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Ala Cys Ile Pro Lys Pro
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Lys

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Ser Val Pro

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

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

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Ile Ile Lys Lys Tyr Gln Leu Gln Phe Arg
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Met Val Arg

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Ala Cys Ile Pro Lys Pro
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Ser Val Leu Leu Asp Ala Ala Ser Gly Gln Leu Arg
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Asp Gln Ser Leu Val Glu Asp Met Asn Ser Met Val Arg
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Asp Leu Leu Val Ala His Asn Thr Trp Asn Ser Tyr Gln Asn Met Leu
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Arg

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Pro Lys Pro Asn Ala
20

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Arg Met Ser Met Leu Ala Ala Ser Gly Pro Thr Trp Asp Gln Leu Pro
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Pro Phe Gln

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Ser Met Leu His Met Gly Gln Pro Asp Leu Trp Thr Phe Ser Pro Ile
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Ser Val Pro

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Met Ser Met Leu Ala Ala Ser Gly Pro Thr Trp Asp Gln Leu Pro Pro
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Phe Gln

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Val Arg Ser Val Leu Leu Asp Ala Ala Ser Gly Gln Leu Arg
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<210> 31
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<400> 31

Gln Asn Leu Asp Pro Pro Val Ser Arg
1 5

<210> 32
<211> 585
<212> PRT

<213> Cricetulus griseus

<400> 32

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            20                  25                  30

Cys Pro Ala Gly Ala Leu Pro Thr Gln Gly Pro Gly Arg Arg Arg Gln
        35                  40                  45

Asn Leu Asp Pro Pro Val Ser Arg Val Arg Ser Val Leu Leu Asp Ala
    50                  55                  60

Ala Ser Gly Gln Leu Arg Leu Val Asp Gly Ile His Pro Tyr Ala Val
65                  70                  75                  80

Ala Trp Ala Asn Leu Thr Asn Ala Ile Arg Glu Thr Gly Trp Ala Tyr
                85                  90                  95

Leu Asp Leu Gly Thr Asn Gly Ser Tyr Asn Asp Ser Leu Gln Ala Tyr
            100                 105                 110

Ala Ala Gly Val Val Glu Ala Ser Val Ser Glu Glu Leu Ile Tyr Met
        115                 120                 125

His Trp Met Asn Thr Met Val Asn Tyr Cys Gly Pro Phe Glu Tyr Glu
    130                 135                 140

Val Gly Tyr Cys Glu Lys Leu Lys Ser Phe Leu Glu Ile Asn Leu Glu
145                 150                 155                 160

Trp Met Gln Arg Glu Met Glu Leu Ser Gln Asp Ser Pro Tyr Trp His
                165                 170                 175

Gln Val Arg Leu Thr Leu Leu Gln Leu Lys Gly Leu Glu Asp Ser Tyr
            180                 185                 190

Glu Gly Arg Leu Thr Phe Pro Thr Gly Arg Phe Thr Ile Lys Pro Leu
        195                 200                 205

Gly Phe Leu Leu Leu Gln Ile Ala Gly Asp Leu Glu Asp Leu Glu Gln
    210                 215                 220
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Ala Leu Asn Lys Thr Ser Thr Lys Leu Ser Leu Gly Ser Gly Ser Cys
225                 230                 235                 240

Ser Ala Ile Ile Lys Leu Leu Pro Gly Ala Arg Asp Leu Leu Val Ala
                245                 250                 255

His Asn Thr Trp Asn Ser Tyr Gln Asn Met Leu Arg Ile Ile Lys Lys
            260                 265                 270

Tyr Gln Leu Gln Phe Arg Gln Gly Pro Gln Glu Ala Tyr Pro Leu Ile
        275                 280                 285

Ala Gly Asn Asn Leu Val Phe Ser Ser Tyr Pro Gly Thr Ile Phe Ser
    290                 295                 300

Gly Asp Asp Phe Tyr Ile Leu Gly Ser Gly Leu Val Thr Leu Glu Thr
305                 310                 315                 320

Thr Ile Gly Asn Lys Asn Pro Ala Leu Trp Lys Tyr Val Gln Pro Gln
                325                 330                 335

Gly Cys Val Leu Glu Trp Ile Arg Asn Ile Val Ala Asn Arg Leu Ala
            340                 345                 350

Leu Asp Gly Ala Thr Trp Ala Asp Ile Phe Lys Gln Phe Asn Ser Gly
        355                 360                 365

Thr Tyr Asn Asn Gln Trp Met Ile Val Asp Tyr Lys Ala Phe Ile Pro
    370                 375                 380

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

Pro Gly Met Val Val Val Ala Asp Lys Thr Glu Asp Leu Tyr Lys Thr
                405                 410                 415

Thr Tyr Trp Ala Ser Tyr Asn Ile Pro Phe Phe Glu Ile Val Phe Asn
            420                 425                 430

Ala Ser Gly Leu Gln Asp Leu Val Ala Gln Tyr Gly Asp Trp Phe Ser
        435                 440                 445
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Tyr Thr Lys Asn Pro Arg Ala Gln Ile Phe Gln Arg Asp Gln Ser Leu
    450                 455                 460

Val Glu Asp Met Asn Ser Met Val Arg Leu Ile Arg Tyr Asn Asn Phe
465                 470                 475                 480

Leu His Asp Pro Leu Ser Leu Cys Glu Ala Cys Ile Pro Lys Pro Asn
                485                 490                 495

Ala Glu Asn Ala Ile Ser Ala Arg Ser Asp Leu Asn Pro Ala Asn Gly
            500                 505                 510

Ser Tyr Pro Phe Gln Ala Leu Tyr Gln Arg Pro His Gly Gly Ile Asp
        515                 520                 525

Val Lys Val Thr Ser Phe Ser Leu Ala Lys Arg Met Ser Met Leu Ala
    530                 535                 540

Ala Ser Gly Pro Thr Trp Asp Gln Leu Pro Pro Phe Gln Trp Ser Leu
545                 550                 555                 560

Ser Pro Phe Arg Ser Met Leu His Met Gly Gln Pro Asp Leu Trp Thr
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Phe Ser Pro Ile Ser Val Pro Trp Asp
            580                 585
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Leu Arg Arg Ala Leu Ala Leu Thr Ser Leu Thr Thr Leu Ala Leu Leu
            20                  25                  30

Ala Ser Leu Thr Gly Leu Leu Leu Ser Gly Pro Ala Gly Ala Leu Pro
        35                  40                  45

Thr Leu Gly Pro Gly Trp Gln Arg Gln Asn Pro Asp Pro Pro Val Ser
    50                  55                  60

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

Glu Asp Gly Phe His Pro Asp Ala Val Ala Trp Ala Asn Leu Thr Asn
                85                  90                  95

Ala Ile Arg Glu Thr Gly Trp Ala Tyr Leu Asp Leu Ser Thr Asn Gly
            100                 105                 110

Arg Tyr Asn Asp Ser Leu Gln Ala Tyr Ala Ala Gly Val Val Glu Ala
        115                 120                 125

Ser Val Ser Glu Glu Leu Ile Tyr Met His Trp Met Asn Thr Val Val
    130                 135                 140

Asn Tyr Cys Gly Pro Phe Glu Tyr Glu Val Gly Tyr Cys Glu Lys Leu
145                 150                 155                 160

Lys Asn Phe Leu Glu Ala Asn Leu Glu Trp Met Gln Arg Glu Met Glu
                165                 170                 175

Leu Asn Pro Asp Ser Pro Tyr Trp His Gln Val Arg Leu Thr Leu Leu
            180                 185                 190

Gln Leu Lys Gly Leu Glu Asp Ser Tyr Glu Gly Arg Leu Thr Phe Pro
        195                 200                 205
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Thr Gly Arg Phe Thr Ile Lys Pro Leu Gly Phe Leu Leu Leu Gln Ile
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Ser Gly Asp Leu Glu Asp Leu Glu Pro Ala Leu Asn Lys Thr Asn Thr
225                 230                 235                 240

Lys Pro Ser Leu Gly Ser Gly Ser Cys Ser Ala Leu Ile Lys Leu Leu
                245                 250                 255

Pro Gly Gly His Asp Leu Leu Val Ala His Asn Thr Trp Asn Ser Tyr
            260                 265                 270

Gln Asn Met Leu Arg Ile Ile Lys Lys Tyr Arg Leu Gln Phe Arg Glu
        275                 280                 285

Gly Pro Gln Glu Glu Tyr Pro Leu Val Ala Gly Asn Asn Leu Val Phe
    290                 295                 300

Ser Ser Tyr Pro Gly Thr Ile Phe Ser Gly Asp Asp Phe Tyr Ile Leu
305                 310                 315                 320

Gly Ser Gly Leu Val Thr Leu Glu Thr Thr Ile Gly Asn Lys Asn Pro
                325                 330                 335

Ala Leu Trp Lys Tyr Val Gln Pro Gln Gly Cys Val Leu Glu Trp Ile
            340                 345                 350

Arg Asn Val Val Ala Asn Arg Leu Ala Leu Asp Gly Ala Thr Trp Ala
        355                 360                 365

Asp Val Phe Lys Arg Phe Asn Ser Gly Thr Tyr Asn Asn Gln Trp Met
    370                 375                 380

Ile Val Asp Tyr Lys Ala Phe Leu Pro Asn Gly Pro Ser Pro Gly Ser
385                 390                 395                 400

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

Asp Lys Thr Ala Glu Leu Tyr Lys Thr Thr Tyr Trp Ala Ser Tyr Asn
            420                 425                 430
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Ile Pro Tyr Phe Glu Thr Val Phe Asn Ala Ser Gly Leu Gln Ala Leu
        435                 440                 445

Val Ala Gln Tyr Gly Asp Trp Phe Ser Tyr Thr Lys Asn Pro Arg Ala
    450                 455                 460

Lys Ile Phe Gln Arg Asp Gln Ser Leu Val Glu Asp Met Asp Ala Met
465                 470                 475                 480

Val Arg Leu Met Arg Tyr Asn Asp Phe Leu His Asp Pro Leu Ser Leu
                485                 490                 495

Cys Glu Ala Cys Asn Pro Lys Pro Asn Ala Glu Asn Ala Ile Ser Ala
            500                 505                 510

Arg Ser Asp Leu Asn Pro Ala Asn Gly Ser Tyr Pro Phe Gln Ala Leu
        515                 520                 525

His Gln Arg Ala His Gly Gly Ile Asp Val Lys Val Thr Ser Phe Thr
    530                 535                 540

Leu Ala Lys Tyr Met Ser Met Leu Ala Ala Ser Gly Pro Thr Trp Asp
545                 550                 555                 560

Gln Cys Pro Pro Phe Gln Trp Ser Lys Ser Pro Phe His Ser Met Leu
                565                 570                 575

His Met Gly Gln Pro Asp Leu Trp Met Phe Ser Pro Ile Arg Val Pro
            580                 585                 590

Trp Asp
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<400> 35

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Leu Arg Arg Ala Leu Ala Leu Ala Ser Leu Ala Gly Leu Leu Leu Ser
            20                  25                  30
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Gly Leu Ala Gly Ala Leu Pro Thr Leu Gly Pro Gly Trp Arg Arg Gln
        35                  40                  45

Asn Pro Glu Pro Pro Ala Ser Arg Thr Arg Ser Leu Leu Leu Asp Ala
    50                  55                  60

Ala Ser Gly Gln Leu Arg Leu Glu Tyr Gly Phe His Pro Asp Ala Val
65                  70                  75                  80

Ala Trp Ala Asn Leu Thr Asn Ala Ile Arg Glu Thr Gly Trp Ala Tyr
                85                  90                  95

Leu Asp Leu Gly Thr Asn Gly Ser Tyr Asn Asp Ser Leu Gln Ala Tyr
            100                 105                 110

Ala Ala Gly Val Val Glu Ala Ser Val Ser Glu Glu Leu Ile Tyr Met
        115                 120                 125

His Trp Met Asn Thr Val Val Asn Tyr Cys Gly Pro Phe Glu Tyr Glu
    130                 135                 140

Val Gly Tyr Cys Glu Lys Leu Lys Ser Phe Leu Glu Ala Asn Leu Glu
145                 150                 155                 160

Trp Met Gln Arg Glu Met Glu Leu Ser Pro Asp Ser Pro Tyr Trp His
                165                 170                 175

Gln Val Arg Leu Thr Leu Leu Gln Leu Lys Gly Leu Glu Asp Ser Tyr
            180                 185                 190

Glu Gly Arg Leu Thr Phe Pro Thr Gly Arg Phe Asn Ile Lys Pro Leu
        195                 200                 205

Gly Phe Leu Leu Leu Gln Ile Ser Gly Asp Leu Glu Asp Leu Glu Pro
    210                 215                 220

Ala Leu Asn Lys Thr Asn Thr Lys Pro Ser Val Gly Ser Gly Ser Cys
225                 230                 235                 240

Ser Ala Leu Ile Lys Leu Leu Pro Gly Ser His Asp Leu Leu Val Ala
                245                 250                 255

His Asn Thr Trp Asn Ser Tyr Gln Asn Met Leu Arg Ile Ile Lys Lys
```

```
            260                 265                 270

Tyr Arg Leu Gln Phe Arg Glu Gly Pro Gln Glu Glu Tyr Pro Leu Ile
        275                 280                 285

Ala Gly Asn Asn Leu Ile Phe Ser Ser Tyr Pro Gly Thr Ile Phe Ser
    290                 295                 300

Gly Asp Asp Phe Tyr Ile Leu Gly Ser Gly Leu Val Thr Leu Glu Thr
305                 310                 315                 320

Thr Ile Gly Asn Lys Asn Pro Ala Leu Trp Lys Tyr Val Gln Pro Gln
                325                 330                 335

Gly Cys Val Leu Glu Trp Ile Arg Asn Ile Val Ala Asn Arg Leu Ala
            340                 345                 350

Leu Asp Gly Ala Thr Trp Ala Asp Val Phe Arg Arg Phe Asn Ser Gly
        355                 360                 365

Thr Tyr Asn Asn Gln Trp Met Ile Val Asp Tyr Lys Ala Phe Ile Pro
    370                 375                 380

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

Pro Gly Met Val Val Val Ala Asp Lys Thr Ala Glu Leu Tyr Lys Thr
                405                 410                 415

Thr Tyr Trp Ala Ser Tyr Asn Ile Pro Tyr Phe Glu Ser Val Phe Asn
            420                 425                 430

Ala Ser Gly Leu Gln Ala Leu Val Ala Gln Tyr Gly Asp Trp Phe Ser
        435                 440                 445

Tyr Thr Arg Asn Pro Arg Ala Lys Ile Phe Gln Arg Asp Gln Ser Leu
    450                 455                 460

Val Glu Asp Val Asp Thr Met Val Arg Leu Met Arg Tyr Asn Asp Phe
465                 470                 475                 480

Leu His Asp Pro Leu Ser Leu Cys Glu Ala Cys Ser Pro Lys Pro Asn
                485                 490                 495
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Ala Glu Asn Ala Ile Ser Ala Arg Ser Asp Leu Asn Pro Ala Asn Gly
500 505 510

Ser Tyr Pro Phe Gln Ala Leu Arg Gln Arg Ala His Gly Gly Ile Asp
515 520 525

Val Lys Val Thr Ser Val Ala Leu Ala Lys Tyr Met Ser Met Leu Ala
530 535 540

Ala Ser Gly Pro Thr Trp Asp Gln Leu Pro Pro Phe Gln Trp Ser Lys
545 550 555 560

Ser Pro Phe His Asn Met Leu His Met Gly Gln Pro Asp Leu Trp Met
565 570 575

Phe Ser Pro Val Lys Val Pro Trp Asp
580 585

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<213> Homo sapiens

<400> 36

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20 25 30

Pro Phe Leu Ser Gly Leu Ala Gly Ala Ile Pro Ala Pro Gly Gly Arg
35 40 45

Trp Ala Arg Asp Gly Gln Val Pro Pro Ala Ser Arg Ser Arg Ser Val
50 55 60

Leu Leu Asp Val Ser Ala Gly Gln Leu Leu Met Val Asp Gly Arg His
65 70 75 80

Pro Asp Ala Val Ala Trp Ala Asn Leu Thr Asn Ala Ile Arg Glu Thr
85 90 95

Gly Trp Ala Phe Leu Glu Leu Gly Thr Ser Gly Gln Tyr Asn Asp Ser
100 105 110

```
Leu Gln Ala Tyr Ala Ala Gly Val Val Glu Ala Ala Val Ser Glu Glu
        115                 120                 125

Leu Ile Tyr Met His Trp Met Asn Thr Val Val Asn Tyr Cys Gly Pro
    130                 135                 140

Phe Glu Tyr Glu Val Gly Tyr Cys Glu Arg Leu Lys Ser Phe Leu Glu
145                 150                 155                 160

Ala Asn Leu Glu Trp Met Gln Glu Glu Met Glu Ser Asn Pro Asp Ser
                165                 170                 175

Pro Tyr Trp His Gln Val Arg Leu Thr Leu Leu Gln Leu Lys Gly Leu
            180                 185                 190

Glu Asp Ser Tyr Glu Gly Arg Val Ser Phe Pro Ala Gly Lys Phe Thr
        195                 200                 205

Ile Lys Pro Leu Gly Phe Leu Leu Leu Gln Leu Ser Gly Asp Leu Glu
    210                 215                 220

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

Ser Gly Ser Cys Ser Ala Leu Ile Lys Leu Leu Pro Gly Gln Ser Asp
                245                 250                 255

Leu Leu Val Ala His Asn Thr Trp Asn Asn Tyr Gln His Met Leu Arg
            260                 265                 270

Val Ile Lys Lys Tyr Trp Leu Gln Phe Arg Glu Gly Pro Trp Gly Asp
        275                 280                 285

Tyr Pro Leu Val Pro Gly Asn Lys Leu Val Phe Ser Ser Tyr Pro Gly
    290                 295                 300

Thr Ile Phe Ser Cys Asp Asp Phe Tyr Ile Leu Gly Ser Gly Leu Val
305                 310                 315                 320

Thr Leu Glu Thr Thr Ile Gly Asn Lys Asn Pro Ala Leu Trp Lys Tyr
                325                 330                 335
```

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Val Arg Pro Arg Gly Cys Val Leu Glu Trp Val Arg Asn Ile Val Ala
            340                 345                 350

Asn Arg Leu Ala Ser Asp Gly Ala Thr Trp Ala Asp Ile Phe Lys Arg
        355                 360                 365

Phe Asn Ser Gly Thr Tyr Asn Asn Gln Trp Met Ile Val Asp Tyr Lys
    370                 375                 380

Ala Phe Ile Pro Gly Gly Pro Ser Pro Gly Ser Arg Val Leu Thr Ile
385                 390                 395                 400

Leu Glu Gln Ile Pro Gly Met Val Val Val Ala Asp Lys Thr Ser Glu
                405                 410                 415

Leu Tyr Gln Lys Thr Tyr Trp Ala Ser Tyr Asn Ile Pro Ser Phe Glu
            420                 425                 430

Thr Val Phe Asn Ala Ser Gly Leu Gln Ala Leu Val Ala Gln Tyr Gly
        435                 440                 445

Asp Trp Phe Ser Tyr Asp Gly Ser Pro Arg Ala Gln Ile Phe Arg Arg
    450                 455                 460

Asn Gln Ser Leu Val Gln Asp Met Asp Ser Met Val Arg Leu Met Arg
465                 470                 475                 480

Tyr Asn Asp Phe Leu His Asp Pro Leu Ser Leu Cys Lys Ala Cys Asn
                485                 490                 495

Pro Gln Pro Asn Gly Glu Asn Ala Ile Ser Ala Arg Ser Asp Leu Asn
            500                 505                 510

Pro Ala Asn Gly Ser Tyr Pro Phe Gln Ala Leu Arg Gln Arg Ser His
        515                 520                 525

Gly Gly Ile Asp Val Lys Val Thr Ser Met Ser Leu Ala Arg Ile Leu
    530                 535                 540

Ser Leu Leu Ala Ala Ser Gly Pro Thr Trp Asp Gln Val Pro Pro Phe
545                 550                 555                 560

Gln Trp Ser Thr Ser Pro Phe Ser Gly Leu Leu His Met Gly Gln Pro
                565                 570                 575
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Asp Leu Trp Lys Phe Ala Pro Val Lys Val Ser Trp Asp
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<400> 37

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Val Thr Arg Ala Leu Ala Leu Ala Leu Val Leu Ala Leu Leu Val Gly
20 25 30

Leu Phe Leu Ser Gly Leu Thr Gly Ala Ile Pro Thr Pro Arg Gly Gln
35 40 45

Arg Gly Arg Gly Met Pro Val Pro Pro Ala Ser Arg Cys Arg Ser Leu
50 55 60

Leu Leu Asp Pro Glu Thr Gly Gln Leu Arg Leu Val Asp Gly Arg His
65 70 75 80

Pro Asp Ala Val Ala Trp Ala Asn Leu Thr Asn Ala Ile Arg Glu Thr
85 90 95

Gly Trp Ala Phe Leu Glu Leu His Thr Asn Gly Arg Phe Asn Asp Ser
100 105 110

Leu Gln Ala Tyr Ala Ala Gly Val Val Glu Ala Ala Val Ser Glu Glu
115 120 125

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

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

Ala Asn Leu Glu Trp Met Gln Lys Glu Met Glu Leu Asn Asn Gly Ser
165 170 175

Ala Tyr Trp His Gln Val Arg Leu Thr Leu Leu Gln Leu Lys Gly Leu

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            180                 185                 190

Glu Asp Ser Tyr Glu Gly Ser Val Ala Phe Pro Thr Gly Lys Phe Thr
        195                 200                 205

Val Lys Pro Leu Gly Phe Leu Leu Leu Gln Ile Ser Gly Asp Leu Glu
    210                 215                 220

Asp Leu Glu Val Ala Leu Asn Lys Thr Lys Thr Asn His Ala Met Gly
225                 230                 235                 240

Ser Gly Ser Cys Ser Ala Leu Ile Lys Leu Leu Pro Gly Gln Arg Asp
                245                 250                 255

Leu Leu Val Ala His Asn Thr Trp His Ser Tyr Gln Tyr Met Leu Arg
            260                 265                 270

Ile Met Lys Lys Tyr Trp Phe Gln Phe Arg Glu Gly Pro Gln Ala Glu
        275                 280                 285

Ser Thr Arg Ala Pro Gly Asn Lys Val Ile Phe Ser Ser Tyr Pro Gly
    290                 295                 300

Thr Ile Phe Ser Cys Asp Asp Phe Tyr Ile Leu Gly Ser Gly Leu Val
305                 310                 315                 320

Thr Leu Glu Thr Thr Ile Gly Asn Lys Asn Pro Ala Leu Trp Lys Tyr
                325                 330                 335

Val Gln Pro Thr Gly Cys Val Leu Glu Trp Met Arg Asn Val Val Ala
            340                 345                 350

Asn Arg Leu Ala Leu Asp Gly Asp Ser Trp Ala Asp Ile Phe Lys Arg
        355                 360                 365

Phe Asn Ser Gly Thr Tyr Asn Asn Gln Trp Met Ile Val Asp Tyr Lys
    370                 375                 380

Ala Phe Val Pro Gly Gly Pro Ser Pro Gly Arg Arg Val Leu Thr Val
385                 390                 395                 400

Leu Glu Gln Ile Pro Gly Met Val Val Val Ala Asp Arg Thr Ser Glu
                405                 410                 415
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Leu Tyr Gln Lys Thr Tyr Trp Ala Ser Tyr Asn Ile Pro Ser Phe Glu
            420                 425                 430

Ser Val Phe Asn Ala Ser Gly Leu Pro Ala Leu Val Ala Arg Tyr Gly
        435                 440                 445

Pro Trp Phe Ser Tyr Asp Gly Ser Pro Arg Ala Gln Ile Phe Arg Arg
    450                 455                 460

Asn His Ser Leu Val His Asp Leu Asp Ser Met Met Arg Leu Met Arg
465                 470                 475                 480

Tyr Asn Asp Phe Leu His Asp Pro Leu Ser Leu Cys Lys Ala Cys Thr
                485                 490                 495

Pro Lys Pro Asn Gly Glu Asn Ala Ile Ser Ala Arg Ser Asp Leu Asn
            500                 505                 510

Pro Ala Asn Gly Ser Tyr Pro Phe Gln Ala Leu His Gln Arg Ser His
        515                 520                 525

Gly Gly Ile Asp Val Lys Val Thr Ser Thr Ala Leu Ala Lys Ala Leu
    530                 535                 540

Arg Leu Leu Ala Val Ser Gly Pro Thr Trp Asp Gln Leu Pro Pro Phe
545                 550                 555                 560

Gln Trp Ser Thr Ser Pro Phe Ser Gly Met Leu His Met Gly Gln Pro
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ggcgggtcga ggttttggcg ccgcctgccg ggcccctgcg tggggagggc gcccgccggg 180

caattcagca acacctcagt cagcgaggcc agcgccagcg ctagcctcag cgcccggacc 240

gcccggccgc cggggctccg gtccatgggg gccgccat 278

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gcttccattt gtacccaagt ccagataggc ccac 94

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gatctccagg aagctcttga gcttctcaca gtagccaact tcatactcga aggggccaca 120

gtagttgacc attgtgttca tccagtgcat gtagatgag 159

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<212> DNA
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ctgtcctcta ggcctttcag ctgcaggagg gtcagccgca c 101

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aggagttcca tgtgttgtgt gccaccagga ggtcacgtgc gcctggcagc aacttgatga 120

tagcggagca ggaaccggag cccagggaaa gcttggtgct ggtcttattc agggcttgct 180

ctaggtcttc caggtctccg gcaatctgca gcagg 215

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aaagaccaaa ttgttgccag caatcagggg gtacgcct 98

<210> 53

<211> 161
<212> DNA
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ttggccacga tgtttcgaat ccactccagc acacagccct ggggctgcac gtacttccac 120

agggctggat tcttgttgcc aatggtggtc tccagggtga c 161

<210> 54
<211> 96
<212> DNA
<213> Cricetulus griseus

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gccttgtagt ccacaatcat ccattggtta ttatac 96

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<211> 72
<212> DNA
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accaccatgc cc 72

<210> 56
<211> 153
<212> DNA
<213> Cricetulus griseus

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agcccactgg cgttgaacac aatctcaaag aac 153

<210> 57
<211> 163
<212> DNA
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ggcttcacac agtgacagag ggtcgtgaag gaagttgttg tac 163

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<211> 168
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catgctgcgg aacggcgata aactccactg gaatgggggc aactgatccc acgttgggcc 120

actggctgcc agcatgctca tgcgcttggc cagtgaaaag ctggtcac 168

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<400> 59
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<210> 60
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