

SEQUENCE LISTING

<110> IFREMER
 Université de Rouen
 CNRS
 Jean-Paul, Cadoret
 Aude Carlier
 Patrice Lerouge
 Muriel bardor
 Carole Burel
 Florian Maury

<120> PRODUCTION OF GLYCOSYLATED POLYPEPTIDES IN MICROALGAE

<130> BCT090027

<150> EP 08300090.1

<151> 2007-02-12

<160> 67

<170> PatentIn version 3.3

<210> 1

<211> 579

<212> DNA

<213> Mus musculus

<400> 1

atgggggtgc ccgaacgtcc caccctgctg cttttactct ccttgctact gattcctctg	60
ggcctcccag tcctctgtgc tccccacgc ctcatctgcg acagtcgagt tctggagagg	120
tacatcttag aggccaagga ggcagaaaat gtcacgatgg gttgtgcaga aggtcccaga	180
ctgagtgaaa atattacagt ccagataacc aaagtcaact tctatgcttg gaaaagaatg	240
gaggtggaag aacaggccat agaagtttgg caaggcctgt ccctgctctc agaagccatc	300
ctgcaggccc aggccctgct agccaattcc tcccagccac cagagaccct tcagcttcat	360
atagacaaag ccatcagtgg tctacgtagc ctacttcac tgcttcgggt actgggagct	420
cagaaggaat tgatgtcgcc tccagataacc accccacctg ctccactccg aacactcaca	480
gtggatactt tctgcaagct cttccgggtc tacgccaact tcctccgggg gaaactgaag	540
ctgtacacgg gagaggtctg caggagaggg gacaggtga	579

<210> 2

<211> 28

<212> DNA

<213> artificial sequence

<220>

<223> FElepo primer

<400> 2

catgaattca tgggggtgcc cgaacgtc	28
--------------------------------	----

<210> 3
 <211> 28
 <212> DNA
 <213> artificial sequence

 <220>
 <223> RH3epo primer

 <400> 3
 cataagcttt cacctgtccc ctctcctg 28

<210> 4
 <211> 50
 <212> DNA
 <213> artificial sequence

 <220>
 <223> RH3His6epo primer

 <400> 4
 cataagcttt cagtgggtgtt ggtgggtggtg cctgtcccct ctccctgcaga 50

<210> 5
 <211> 980
 <212> DNA
 <213> Homo sapiens

 <400> 5
 atgcatctcc ttgcgattct gttttgtgct ctctgggtctg cagtgttggc cgagaactcg 60
 gatgattatg atctcatgta tgtgaatttg gacaacgaaa tagacaatgg actccatccc 120
 actgaggacc ccacgccgtg cgccctgcgggt caggagcact cggaatggga caagctcttc 180
 atcatgctgg agaactcgca gatgagagag cgcattgctgc tgcaagccac ggacgacgtc 240
 ctgcggggcg agctgcagag gctgcgggag gagctggggc ggctcgcgga aagcctggcg 300
 aggccgtgcg cgccgggggc tcccgcagag gccaggetga ccagtgtctt ggacgagctg 360
 ctgcaggcga cccgcgacgc gggccgcagg ctggcgcgta tggagggcgcg ggagggcgag 420
 cgcccagagg aggcggggcg cgccctggcc gcggtgctag aggagctgcg gcagacgcga 480
 gccgacctgc acgcggtgca gggctgggct gcccgagct ggctgccggc aggttgtgaa 540
 acagctatct ttttcccaat gcgttccaag aagatttttg gaagcgtgca tccagtgaga 600
 ccaatgaggc ttgagtcttt tagtgacctg atttgggtca aagccacaga tgtattaaac 660
 aaaaccatcc tggtttccta tggcaciaag aggaatccat atgaaatcca gctgtatctc 720
 agctaccaat ccatagtgtt tgtgggtggg ggagaggaga acaaactggg tgcgtgaagcc 780
 atggtttccc tgggaagggt gaccacactg tgccggcacct ggaattcaga ggaagggctc 840
 acatccttgt gggtaaattg tgaactggcg gctaccactg ttgagatggc cacaggctac 900

attgttcctg agggaggaat cctgcagatt ggccaagaaa agaatggctg ctgtgtgggt 960
ggtggccttg atgaaacatt 980

<210> 6
<211> 29
<212> DNA
<213> artificial sequence

<220>
<223> FE5PTX3 primer

<400> 6
catgatatca tgcattctct tgcgattct 29

<210> 7
<211> 30
<212> DNA
<213> artificial sequence

<220>
<223> RH3PTX3 primer

<400> 7
cctaagcttt tatgaaacat actgagctcc 30

<210> 8
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> FRTepo primer

<400> 8
tcttagaggc caaggaggca gaaa 24

<210> 9
<211> 24
<212> DNA
<213> artificial sequence

<220>
<223> Rrtepo primer

<400> 9
accggaaga gcttgcagaa agta 24

<210> 10
<211> 19
<212> DNA
<213> artificial sequence

<220>
<223> FrtPTX3 primer

<400> 10
ctagaggagc tgcggcaga 19

<210> 11
<211> 23
<212> DNA
<213> artificial sequence

<220>
<223> RrtPTX3 primer

<400> 11
cacccaccac aaacactatg gat 23

<210> 12
<211> 19
<212> DNA
<213> artificial sequence

<220>
<223> Fepo primer

<400> 12
atgggggtgc ccgaacgtc 19

<210> 13
<211> 19
<212> DNA
<213> artificial sequence

<220>
<223> Repo primer

<400> 13
tcacctgtcc cctctcctg 19

<210> 14
<211> 26
<212> DNA
<213> artificial sequence

<220>
<223> FpZ primer

<400> 14
tcagttctgc acaaatttgt ctgccg 26

<210> 15
<211> 26
<212> DNA
<213> artificial sequence

<220>
<223> RpZ primer

<400> 15

cacgtccctg gttgagttcg atagca

26

<210> 16
<211> 20
<212> DNA
<213> artificial sequence

<220>
<223> FPTX3 primer

<400> 16
atgcatctcc ttgcgattct

20

<210> 17
<211> 20
<212> DNA
<213> artificial sequence

<220>
<223> RPTX3 primer

<400> 17
tgaaacatac tgagctcctc

20

<210> 18
<211> 447
<212> PRT
<213> Mus musculus

<400> 18

Met Leu Lys Lys Gln Thr Ala Gly Leu Val Leu Trp Gly Ala Ile Ile
1 5 10 15

Phe Val Gly Trp Asn Ala Leu Leu Leu Phe Phe Trp Thr Arg Pro
20 25 30

Ala Pro Gly Arg Leu Pro Ser Asp Ser Ala Leu Gly Asp Asp Pro Ala
35 40 45

Ser Leu Thr Arg Glu Val Ile His Leu Ala Glu Asp Ala Glu Ala Glu
50 55 60

Leu Glu Arg Gln Arg Gly Leu Leu Gln Gln Ile Lys Glu His Tyr Ala
65 70 75 80

Leu Trp Arg Gln Arg Trp Arg Val Pro Thr Val Ala Pro Pro Ala Trp
85 90 95

Pro Arg Val Pro Val Thr Pro Ser Pro Val Gln Ile Pro Ile Leu Val
100 105 110

Ile Ala Cys Asp Arg Ser Thr Val Arg Arg Cys Leu Asp Lys Leu Leu
115 120 125

His Tyr Arg Pro Ser Ala Glu Arg Phe Pro Ile Ile Val Ser Gln Asp
130 135 140

Cys Gly His Glu Glu Thr Ala Gln Val Ile Ala Ser Tyr Gly Thr Ala
145 150 155 160

Val Thr His Ile Arg Gln Pro Asp Leu Ser Asn Ile Ala Val Gln Pro
165 170 175

Asp His Arg Lys Phe Gln Gly Tyr Tyr Lys Ile Ala Arg His Tyr Arg
180 185 190

Trp Ala Leu Gly Gln Ile Phe Asn Lys Phe Lys Phe Pro Ala Ala Val
195 200 205

Val Val Glu Asp Asp Leu Glu Val Ala Pro Asp Phe Phe Glu Tyr Phe
210 215 220

Gln Ala Thr Tyr Pro Leu Leu Arg Thr Asp Pro Ser Leu Trp Cys Val
225 230 235 240

Ser Ala Trp Asn Asp Asn Gly Lys Glu Gln Met Val Asp Ser Ser Lys
245 250 255

Pro Glu Leu Leu Tyr Arg Thr Asp Phe Phe Pro Gly Leu Gly Trp Leu
260 265 270

Leu Leu Ala Asp Leu Trp Ala Glu Leu Glu Pro Lys Trp Pro Lys Ala
275 280 285

Phe Trp Asp Asp Trp Met Arg Arg Pro Glu Gln Arg Lys Gly Arg Ala
290 295 300

Cys Ile Arg Pro Glu Ile Ser Arg Thr Met Thr Phe Gly Arg Lys Gly
305 310 315 320

Val Ser His Gly Gln Phe Phe Asp Gln His Leu Lys Phe Ile Lys Leu
325 330 335

Asn Gln Gln Phe Val Pro Phe Thr Gln Leu Asp Leu Ser Tyr Leu Gln
340 345 350

Gln Glu Ala Tyr Asp Arg Asp Phe Leu Ala Gln Val Tyr Gly Ala Pro
355 360 365

Gln Leu Gln Val Glu Lys Val Arg Thr Asn Asp Gln Lys Glu Leu Gly
370 375 380

Glu Val Arg Val Gln Tyr Thr Ser Arg Asp Ser Phe Lys Ala Phe Ala
385 390 395 400

Lys Ala Leu Gly Val Met Asp Asp Leu Lys Ser Gly Val Pro Arg Ala
405 410 415

Gly Tyr Arg Gly Ile Val Thr Phe Gln Phe Arg Gly Arg Arg Val His
420 425 430

Leu Ala Pro Pro Gln Thr Trp Thr Gly Tyr Asp Pro Ser Trp Asn
435 440 445

<210> 19
<211> 445
<212> PRT
<213> Homo sapiens

<400> 19

Met Leu Lys Lys Gln Ser Ala Gly Leu Val Leu Trp Gly Ala Ile Leu
1 5 10 15

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

Ala Pro Gly Arg Pro Pro Ser Val Ser Ala Leu Asp Gly Asp Pro Ala
35 40 45

Ser Leu Thr Arg Glu Val Ile Arg Leu Ala Gln Asp Ala Glu Val Glu
50 55 60

Leu Glu Arg Gln Arg Gly Leu Leu Gln Gln Ile Gly Asp Ala Leu Ser
65 70 75 80

Ser Gln Arg Gly Arg Val Pro Thr Ala Ala Pro Pro Ala Gln Pro Arg
85 90 95

Val Pro Val Thr Pro Ala Pro Ala Val Ile Pro Ile Leu Val Ile Ala
100 105 110

Cys Asp Arg Ser Thr Val Arg Arg Cys Leu Asp Lys Leu Leu His Tyr
115 120 125

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

His Glu Glu Thr Ala Gln Ala Ile Ala Ser Tyr Gly Ser Ala Val Thr
145 150 155 160

His Ile Arg Gln Pro Asp Leu Ser Ser Ile Ala Val Pro Pro Asp His
165 170 175

Arg Lys Phe Gln Gly Tyr Tyr Lys Ile Ala Arg His Tyr Arg Trp Ala
180 185 190

Leu Gly Gln Val Phe Arg Gln Phe Arg Phe Pro Ala Ala Val Val Val
195 200 205

Glu Asp Asp Leu Glu Val Ala Pro Asp Phe Phe Glu Tyr Phe Arg Ala
210 215 220

Thr Tyr Pro Leu Leu Lys Ala Asp Pro Ser Leu Trp Cys Val Ser Ala
225 230 235 240

Trp Asn Asp Asn Gly Lys Glu Gln Met Val Asp Ala Ser Arg Pro Glu
245 250 255

Leu Leu Tyr Arg Thr Asp Phe Phe Pro Gly Leu Gly Trp Leu Leu Leu
260 265 270

Ala Glu Leu Trp Ala Glu Leu Glu Pro Lys Trp Pro Lys Ala Phe Trp
275 280 285

Asp Asp Trp Met Arg Arg Pro Glu Gln Arg Gln Gly Arg Ala Cys Ile
290 295 300

Arg Pro Glu Ile Ser Arg Thr Met Thr Phe Gly Arg Lys Gly Val Ser
305 310 315 320

His Gly Gln Phe Phe Asp Gln His Leu Lys Phe Ile Lys Leu Asn Gln
325 330 335

Gln Phe Val His Phe Thr Gln Leu Asp Leu Ser Tyr Leu Gln Arg Glu
340 345 350

Ala Tyr Asp Arg Asp Phe Leu Ala Arg Val Tyr Gly Ala Pro Gln Leu
355 360 365

Gln Val Glu Lys Val Arg Thr Asn Asp Arg Lys Glu Leu Gly Glu Val
370 375 380

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

Leu Gly Val Met Asp Asp Leu Lys Ser Gly Val Pro Arg Ala Gly Tyr
405 410 415

Arg Gly Ile Val Thr Phe Gln Phe Arg Gly Arg Arg Val His Leu Ala
420 425 430

Pro Pro Leu Thr Trp Glu Gly Tyr Asp Pro Ser Trp Asn
435 440 445

<210> 20
<211> 442
<212> PRT
<213> Mus musculus

<400> 20

Met Arg Phe Arg Ile Tyr Lys Arg Lys Val Leu Ile Leu Thr Leu Val
1 5 10 15

Val Ala Ala Cys Gly Phe Val Leu Trp Ser Ser Asn Gly Arg Gln Arg
20 25 30

Lys Ser Asp Ala Leu Gly Pro Pro Leu Leu Asp Ala Glu Pro Val Arg
35 40 45

Gly Ala Gly His Leu Ala Val Ser Val Gly Ile Arg Arg Val Ser Asn
50 55 60

Glu Ser Ala Ala Pro Leu Val Pro Ala Val Pro Arg Pro Glu Val Asp
65 70 75 80

Asn Leu Thr Leu Arg Tyr Arg Ser Leu Val Tyr Gln Leu Asn Phe Asp
85 90 95

Gln Met Leu Arg Asn Val Gly Asn Asp Gly Thr Trp Ser Pro Gly Glu
100 105 110

Leu Val Leu Val Val Gln Val His Asn Arg Pro Glu Tyr Leu Arg Leu
115 120 125

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

130

135

140

Ile Phe Ser His Asp Phe Trp Ser Ala Glu Ile Asn Ser Leu Ile Ser
 145 150 155 160

Arg Val Asp Phe Cys Pro Val Leu Gln Val Phe Phe Pro Phe Ser Ile
 165 170 175

Gln Leu Tyr Pro Asn Glu Phe Pro Gly Ser Asp Pro Arg Asp Cys Pro
 180 185 190

Arg Asp Leu Lys Lys Asn Ala Ala Leu Lys Leu Gly Cys Ile Asn Ala
 195 200 205

Glu Tyr Pro Asp Ser Phe Gly His Tyr Arg Glu Ala Lys Phe Ser Gln
 210 215 220

Thr Lys His His Trp Trp Trp Lys Leu His Phe Val Trp Glu Arg Val
 225 230 235 240

Lys Val Leu Gln Asp Tyr Thr Gly Leu Ile Leu Phe Leu Glu Glu Asp
 245 250 255

His Tyr Leu Ala Pro Asp Phe Tyr His Val Phe Lys Lys Met Trp Lys
 260 265 270

Leu Lys Gln Gln Glu Cys Pro Gly Cys Asp Val Leu Ser Leu Gly Thr
 275 280 285

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

Lys Thr Trp Lys Ser Thr Glu His Asn Met Gly Leu Ala Leu Thr Arg
 305 310 315 320

Asp Ala Tyr Gln Lys Leu Ile Glu Cys Thr Asp Thr Phe Cys Thr Tyr
 325 330 335

Asp Asp Tyr Asn Trp Asp Trp Thr Leu Gln Tyr Leu Thr Leu Ala Cys
 340 345 350

Leu Pro Lys Ile Trp Lys Val Leu Val Pro Gln Ala Pro Arg Ile Phe
 355 360 365

His Ala Gly Asp Cys Gly Met His His Lys Lys Thr Cys Arg Pro Ser
 370 375 380

Thr Gln Ser Ala Gln Ile Glu Ser Leu Leu Asn Ser Asn Lys Gln Tyr
385 390 395 400

Leu Phe Pro Glu Thr Leu Val Ile Gly Glu Lys Phe Pro Met Ala Ala
405 410 415

Ile Ser Pro Pro Arg Lys Asn Gly Gly Trp Gly Asp Ile Arg Asp His
420 425 430

Glu Leu Cys Lys Ser Tyr Arg Arg Leu Gln
435 440

<210> 21
<211> 447
<212> PRT
<213> Homo sapiens

<400> 21

Met Arg Phe Arg Ile Tyr Lys Arg Lys Val Leu Ile Leu Thr Leu Val
1 5 10 15

Val Ala Ala Cys Gly Phe Val Leu Trp Ser Ser Asn Gly Arg Gln Arg
20 25 30

Lys Asn Glu Ala Leu Ala Pro Pro Leu Leu Asp Ala Glu Pro Ala Arg
35 40 45

Gly Ala Gly Gly Arg Gly Gly Asp His Pro Ser Val Ala Val Gly Ile
50 55 60

Arg Arg Val Ser Asn Val Ser Ala Ala Ser Leu Val Pro Ala Val Pro
65 70 75 80

Gln Pro Glu Ala Asp Asn Leu Thr Leu Arg Tyr Arg Ser Leu Val Tyr
85 90 95

Gln Leu Asn Phe Asp Gln Thr Leu Arg Asn Val Asp Lys Ala Gly Thr
100 105 110

Trp Ala Pro Arg Glu Leu Val Leu Val Val Gln Val His Asn Arg Pro
115 120 125

Glu Tyr Leu Arg Leu Leu Leu Asp Ser Leu Arg Lys Ala Gln Gly Ile
130 135 140

Asp Asn Val Leu Val Ile Phe Ser His Asp Phe Trp Ser Thr Glu Ile
145 150 155 160

Asn Gln Leu Ile Ala Gly Val Asn Phe Cys Pro Val Leu Gln Val Phe
165 170 175

Phe Pro Phe Ser Ile Gln Leu Tyr Pro Asn Glu Phe Pro Gly Ser Asp
180 185 190

Pro Arg Asp Cys Pro Arg Asp Leu Pro Lys Asn Ala Ala Leu Lys Leu
195 200 205

Gly Cys Ile Asn Ala Glu Tyr Pro Asp Ser Phe Gly His Tyr Arg Glu
210 215 220

Ala Lys Phe Ser Gln Thr Lys His His Trp Trp Trp Lys Leu His Phe
225 230 235 240

Val Trp Glu Arg Val Lys Ile Leu Arg Asp Tyr Ala Gly Leu Ile Leu
245 250 255

Phe Leu Glu Glu Asp His Tyr Leu Ala Pro Asp Phe Tyr His Val Phe
260 265 270

Lys Lys Met Trp Lys Leu Lys Gln Gln Glu Cys Pro Glu Cys Asp Val
275 280 285

Leu Ser Leu Gly Thr Tyr Ser Ala Ser Arg Ser Phe Tyr Gly Met Ala
290 295 300

Asp Lys Val Asp Val Lys Thr Trp Lys Ser Thr Glu His Asn Met Gly
305 310 315 320

Leu Ala Leu Thr Arg Asn Ala Tyr Gln Lys Leu Ile Glu Cys Thr Asp
325 330 335

Thr Phe Cys Thr Tyr Asp Asp Tyr Asn Trp Asp Trp Thr Leu Gln Tyr
340 345 350

Leu Thr Val Ser Cys Leu Pro Lys Phe Trp Lys Val Leu Val Pro Gln
355 360 365

Ile Pro Arg Ile Phe His Ala Gly Asp Cys Gly Met His His Lys Lys
370 375 380

Thr Cys Arg Pro Ser Thr Gln Ser Ala Gln Ile Glu Ser Leu Leu Asn

385 390 395 400

Asn Asn Lys Gln Tyr Met Phe Pro Glu Thr Leu Thr Ile Ser Glu Lys
405 410 415

Phe Thr Val Val Ala Ile Ser Pro Pro Arg Lys Asn Gly Gly Trp Gly
420 425 430

Asp Ile Arg Asp His Glu Leu Cys Lys Ser Tyr Arg Arg Leu Gln
435 440 445

<210> 22
<211> 538
<212> PRT
<213> Mus musculus

<400> 22

Met Lys Met Arg Arg Tyr Lys Leu Phe Leu Met Phe Cys Met Ala Gly
1 5 10 15

Leu Cys Leu Ile Ser Phe Leu His Phe Phe Lys Thr Leu Ser Tyr Val
20 25 30

Thr Phe Pro Arg Glu Leu Ala Ser Leu Ser Pro Asn Leu Val Ser Ser
35 40 45

Phe Phe Trp Asn Asn Ala Pro Val Thr Pro Gln Ala Ser Pro Glu Pro
50 55 60

Gly Gly Pro Asp Leu Leu Arg Thr Pro Leu Tyr Ser His Ser Pro Leu
65 70 75 80

Leu Gln Pro Leu Ser Pro Ser Lys Ala Thr Glu Glu Leu His Arg Val
85 90 95

Asp Phe Val Leu Pro Glu Asp Thr Thr Glu Tyr Phe Val Arg Thr Lys
100 105 110

Ala Gly Gly Val Cys Phe Lys Pro Gly Thr Arg Met Leu Glu Lys Pro
115 120 125

Ser Pro Gly Arg Thr Glu Glu Lys Pro Glu Val Ser Glu Gly Ser Ser
130 135 140

Ala Arg Gly Pro Ala Arg Arg Pro Met Arg His Val Leu Ser Thr Arg
145 150 155 160

Glu Arg Leu Gly Ser Arg Gly Thr Arg Arg Lys Trp Val Glu Cys Val
165 170 175

Cys Leu Pro Gly Trp His Gly Pro Ser Cys Gly Val Pro Thr Val Val
180 185 190

Gln Tyr Ser Asn Leu Pro Thr Lys Glu Arg Leu Val Pro Arg Glu Val
195 200 205

Pro Arg Arg Val Ile Asn Ala Ile Asn Ile Asn His Glu Phe Asp Leu
210 215 220

Leu Asp Val Arg Phe His Glu Leu Gly Asp Val Val Asp Ala Phe Val
225 230 235 240

Val Cys Glu Ser Asn Phe Thr Ala Tyr Gly Glu Pro Arg Pro Leu Lys
245 250 255

Phe Arg Glu Met Leu Thr Asn Gly Thr Phe Glu Tyr Ile Arg His Lys
260 265 270

Val Leu Tyr Val Phe Leu Asp His Phe Pro Pro Gly Gly Arg Gln Asp
275 280 285

Gly Trp Ile Ala Asp Asp Tyr Leu Arg Thr Phe Leu Thr Gln Asp Gly
290 295 300

Val Ser Arg Leu Arg Asn Leu Arg Pro Asp Asp Val Phe Ile Ile Asp
305 310 315 320

Asp Ala Asp Glu Ile Pro Ala Arg Asp Gly Val Leu Phe Leu Lys Leu
325 330 335

Tyr Asp Gly Trp Thr Glu Pro Phe Ala Phe His Met Arg Lys Ser Leu
340 345 350

Tyr Gly Phe Phe Trp Lys Gln Pro Gly Thr Leu Glu Val Val Ser Gly
355 360 365

Cys Thr Met Asp Met Leu Gln Ala Val Tyr Gly Leu Asp Gly Ile Arg
370 375 380

Leu Arg Arg Arg Gln Tyr Tyr Thr Met Pro Asn Phe Arg Gln Tyr Glu
385 390 395 400

Asn Arg Thr Gly His Ile Leu Val Gln Trp Ser Leu Gly Ser Pro Leu
405 410 415

His Phe Ala Gly Trp His Cys Ser Trp Cys Phe Thr Pro Glu Gly Ile
420 425 430

Tyr Phe Lys Leu Val Ser Ala Gln Asn Gly Asp Phe Pro Arg Trp Gly
435 440 445

Asp Tyr Glu Asp Lys Arg Asp Leu Asn Tyr Ile Arg Ser Leu Ile Arg
450 455 460

Thr Gly Gly Trp Phe Asp Gly Thr Gln Gln Glu Tyr Pro Pro Ala Asp
465 470 475 480

Pro Ser Glu His Met Tyr Ala Pro Lys Tyr Leu Leu Lys Asn Tyr Asp
485 490 495

Gln Phe Arg Tyr Leu Leu Glu Asn Pro Tyr Arg Glu Pro Lys Ser Thr
500 505 510

Glu Glu Gly Gly Arg Arg Asn Gln Gly Ser Asp Gly Arg Pro Ser Ala
515 520 525

Val Arg Gly Lys Leu Asp Thr Val Glu Gly
530 535

<210> 23
<211> 533
<212> PRT
<213> Homo sapiens

<400> 23

Met Lys Met Arg Arg Tyr Lys Leu Phe Leu Met Phe Cys Met Ala Gly
1 5 10 15

Leu Cys Leu Ile Ser Phe Leu His Phe Phe Lys Thr Leu Ser Tyr Val
20 25 30

Thr Phe Pro Arg Glu Leu Ala Ser Leu Ser Pro Asn Leu Val Ser Ser
35 40 45

Phe Phe Trp Asn Asn Ala Pro Val Thr Pro Gln Ala Ser Pro Glu Pro
50 55 60

Gly Gly Pro Asp Leu Leu Arg Thr Pro Leu Tyr Ser His Ser Pro Leu
65 70 75 80

Leu Gln Pro Leu Pro Pro Ser Lys Ala Ala Glu Glu Leu His Arg Val
85 90 95

Asp Leu Val Leu Pro Glu Asp Thr Thr Glu Tyr Phe Val Arg Thr Lys
100 105 110

Ala Gly Gly Val Cys Phe Lys Pro Gly Thr Lys Met Leu Glu Arg Pro
115 120 125

Pro Pro Gly Arg Pro Glu Glu Lys Pro Glu Gly Ala Asn Gly Ser Ser
130 135 140

Ala Arg Arg Pro Pro Arg Tyr Leu Leu Ser Ala Arg Glu Arg Thr Gly
145 150 155 160

Gly Arg Gly Ala Arg Arg Lys Trp Val Glu Cys Val Cys Leu Pro Gly
165 170 175

Trp His Gly Pro Ser Cys Gly Val Pro Thr Val Val Gln Tyr Ser Asn
180 185 190

Leu Pro Thr Lys Glu Arg Leu Val Pro Arg Glu Val Pro Arg Arg Val
195 200 205

Ile Asn Ala Ile Asn Val Asn His Glu Phe Asp Leu Leu Asp Val Arg
210 215 220

Phe His Glu Leu Gly Asp Val Val Asp Ala Phe Val Val Cys Glu Ser
225 230 235 240

Asn Phe Thr Ala Tyr Gly Glu Pro Arg Pro Leu Lys Phe Arg Glu Met
245 250 255

Leu Thr Asn Gly Thr Phe Glu Tyr Ile Arg His Lys Val Leu Tyr Val
260 265 270

Phe Leu Asp His Phe Pro Pro Gly Gly Arg Gln Asp Gly Trp Ile Ala
275 280 285

Asp Asp Tyr Leu Arg Thr Phe Leu Thr Gln Asp Gly Val Ser Arg Leu
290 295 300

Arg Asn Leu Arg Pro Asp Asp Val Phe Ile Ile Asp Asp Ala Asp Glu
305 310 315 320

Ile Pro Ala Arg Asp Gly Val Leu Phe Leu Lys Leu Tyr Asp Gly Trp
325 330 335

Thr Glu Pro Phe Ala Phe His Met Arg Lys Ser Leu Tyr Gly Phe Phe
340 345 350

Trp Lys Gln Pro Gly Thr Leu Glu Val Val Ser Gly Cys Thr Val Asp
355 360 365

Met Leu Gln Ala Val Tyr Gly Leu Asp Gly Ile Arg Leu Arg Arg Arg
370 375 380

Gln Tyr Tyr Thr Met Pro Asn Phe Arg Gln Tyr Glu Asn Arg Thr Gly
385 390 395 400

His Ile Leu Val Gln Trp Ser Leu Gly Ser Pro Leu His Phe Ala Gly
405 410 415

Trp His Cys Ser Trp Cys Phe Thr Pro Glu Gly Ile Tyr Phe Lys Leu
420 425 430

Val Ser Ala Gln Asn Gly Asp Phe Pro Arg Trp Gly Asp Tyr Glu Asp
435 440 445

Lys Arg Asp Leu Asn Tyr Ile Arg Gly Leu Ile Arg Thr Gly Gly Trp
450 455 460

Phe Asp Gly Thr Gln Gln Glu Tyr Pro Pro Ala Asp Pro Ser Glu His
465 470 475 480

Met Tyr Ala Pro Lys Tyr Leu Leu Lys Asn Tyr Asp Arg Phe His Tyr
485 490 495

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

Trp Arg His Arg Gly Pro Glu Gly Arg Pro Pro Ala Arg Gly Lys Leu
515 520 525

Asp Glu Ala Glu Val
530

<210> 24
<211> 535
<212> PRT
<213> Mus musculus

<400> 24

Met Arg Leu Arg Asn Gly Thr Val Ala Thr Ala Leu Val Phe Val Thr
1 5 10 15

Ser Phe Leu Thr Leu Ser Trp Tyr Thr Thr Trp Gln Asn Gly Lys Glu
20 25 30

Lys Leu Ile Ala Tyr Gln Arg Glu Phe Leu Ala Leu Lys Glu Arg Leu
35 40 45

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

Ile Val Gln Gln Phe Arg Arg Ala Gly Ala Glu Thr Asn Gly Ser Lys
65 70 75 80

Thr Ala Leu Ser Thr Ile Ser Asp Asn Thr Ile Lys Leu Leu Lys Glu
85 90 95

Leu Thr Ser Lys Lys Ser Leu Arg Val Pro Ser Ile Tyr Tyr His Leu
100 105 110

Pro His Leu Leu Gln Asn Glu Arg Ser Leu Gln Pro Ala Val Gln Ile
115 120 125

Gly Ser Gly Arg Thr Gly Val Ser Ile Val Met Gly Ile Pro Thr Val
130 135 140

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

Asp Asn Leu Tyr Pro Glu Glu Lys Leu Asp Cys Val Ile Val Val Phe
165 170 175

Ile Gly Glu Thr Asp Leu Asp Tyr Val His Ser Val Val Ala Asn Leu
180 185 190

Glu Lys Glu Phe Ser Arg Glu Ile Ser Ser Gly Leu Leu Glu Ile Ile
195 200 205

Ser Pro Pro Glu Ser Tyr Tyr Pro Asp Leu Thr Asn Leu Lys Glu Thr
210 215 220

Phe Gly Asp Ser Lys Glu Arg Val Arg Trp Arg Thr Lys Gln Asn Leu
225 230 235 240

Asp Tyr Cys Phe Leu Met Met Tyr Ala Gln Glu Lys Gly Ile Tyr Tyr
245 250 255

Ile Gln Leu Glu Asp Asp Ile Ile Val Lys Gln Asn Tyr Phe Asn Thr
260 265 270

Ile Lys Asn Phe Ala Leu Gln Leu Ser Ser Glu Glu Trp Met Ile Leu
275 280 285

Glu Phe Ser Gln Leu Gly Phe Ile Gly Lys Met Phe Gln Ala Pro Asp
290 295 300

Leu Ala Leu Val Val Glu Phe Ile Leu Met Phe Tyr Lys Glu Lys Pro
305 310 315 320

Ile Asp Trp Leu Leu Asp His Ile Leu Trp Val Lys Val Cys Asn Pro
325 330 335

Glu Lys Asp Ala Lys His Cys Asp Arg Gln Lys Ala Asn Leu Arg Ile
340 345 350

Arg Phe Arg Pro Ser Leu Phe Gln His Val Gly Leu His Ser Ser Leu
355 360 365

Ser Gly Lys Ile Gln Lys Leu Thr Asp Lys Asp Tyr Met Lys Pro Leu
370 375 380

Leu Leu Lys Val His Val Asn Pro Pro Ala Glu Val Ser Thr Ser Leu
385 390 395 400

Lys Val Tyr Gln Gly His Thr Leu Glu Lys Thr Tyr Met Gly Glu Asp
405 410 415

Phe Phe Trp Ala Ile Thr Pro Thr Ala Gly Asp Tyr Ile Leu Phe Lys
420 425 430

Phe Asp Lys Pro Val Asn Val Glu Ser Tyr Leu Phe His Ser Gly Asn
435 440 445

Gln Glu His Pro Gly Asp Ile Leu Leu Asn Thr Thr Val Asp Val Leu
450 455 460

Pro Leu Lys Ser Asp Ser Leu Glu Ile Ser Lys Glu Thr Lys Asp Lys
465 470 475 480

Arg Leu Glu Asp Gly Tyr Phe Arg Ile Gly Lys Phe Glu Tyr Gly Val
485 490 495

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

Leu Ser Val Ile Gln Asn Ser Ala Val Trp Ala Ile Leu Asn Glu Ile
515 520 525

His Ile Lys Lys Val Thr Ser
530 535

<210> 25
<211> 548
<212> PRT
<213> Mus musculus

<400> 25

Met Arg Leu Arg Asn Gly Thr Phe Leu Thr Leu Leu Leu Phe Cys Leu
1 5 10 15

Cys Ala Phe Leu Ser Leu Ser Trp Tyr Ala Ala Leu Ser Gly Gln Lys
20 25 30

Gly Asp Val Val Asp Ile Tyr Gln Arg Glu Phe Leu Ala Leu Arg Asp
35 40 45

Arg Leu His Ala Ala Glu Gln Glu Ser Leu Lys Arg Ser Lys Glu Leu
50 55 60

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

Leu Arg Asp Gly Glu Gly Asn Arg Thr Trp Gly Arg Leu Thr Glu Asp
85 90 95

Pro Arg Leu Lys Pro Trp Asn Val Ser His Arg His Val Leu His Leu
100 105 110

Pro Thr Val Phe His His Leu Pro His Leu Leu Ala Lys Glu Ser Ser
115 120 125

Leu Gln Pro Ala Val Arg Val Gly Gln Gly Arg Thr Gly Val Ser Val
130 135 140

Val Met Gly Ile Pro Ser Val Arg Arg Glu Val His Ser Tyr Leu Thr

145		150		155		160
Asp Thr Leu His Ser Leu Ile Ser Glu Leu Ser Pro Gln Glu Lys Glu						
		165		170		175
Asp Ser Val Ile Val Val Leu Ile Ala Glu Thr Asp Pro Gln Tyr Thr						
		180		185		190
Ser Ala Val Thr Glu Asn Ile Lys Ala Leu Phe Pro Thr Glu Ile His						
		195		200		205
Ser Gly Leu Leu Glu Val Ile Ser Pro Ser Pro His Phe Tyr Pro Asp						
		210		215		220
Phe Ser Arg Leu Arg Glu Ser Phe Gly Asp Pro Lys Glu Arg Val Arg						
		225		230		235
Trp Arg Thr Lys Gln Asn Leu Asp Tyr Cys Phe Leu Met Met Tyr Ala						
		245		250		255
Gln Ser Lys Gly Ile Tyr Tyr Val Gln Leu Glu Asp Asp Ile Val Ala						
		260		265		270
Lys Pro Asn Tyr Leu Ser Thr Met Lys Asn Phe Ala Leu Gln Gln Pro						
		275		280		285
Ser Glu Asp Trp Met Ile Leu Glu Phe Ser Gln Leu Gly Phe Ile Gly						
		290		295		300
Lys Met Phe Lys Ser Leu Asp Leu Ser Leu Ile Val Glu Phe Ile Leu						
		305		310		315
Met Phe Tyr Arg Asp Lys Pro Ile Asp Trp Leu Leu Asp His Ile Leu						
		325		330		335
Trp Val Lys Val Cys Asn Pro Glu Lys Asp Ala Lys His Cys Asp Arg						
		340		345		350
Gln Lys Ala Asn Leu Arg Ile Arg Phe Lys Pro Ser Leu Phe Gln His						
		355		360		365
Val Gly Thr His Ser Ser Leu Ala Gly Lys Ile Gln Lys Leu Lys Asp						
		370		375		380
Lys Asp Phe Gly Lys His Ala Leu Arg Lys Ser Tyr Val Asn Pro Pro						
		385		390		395
						400

Ala Glu Val Ser Thr Ser Leu Lys Thr Tyr Gln His Phe Thr Leu Glu
405 410 415

Lys Ala Tyr Leu Arg Glu Asp Phe Phe Trp Ala Phe Thr Pro Ala Ala
420 425 430

Gly Asp Phe Ile Arg Phe Arg Phe Phe Gln Pro Leu Arg Leu Glu Arg
435 440 445

Phe Phe Phe Arg Ser Gly Asn Ile Glu His Pro Glu Asp Lys Leu Phe
450 455 460

Asn Thr Ser Val Glu Val Leu Pro Phe Asp Asn Pro Gln Ser Glu Lys
465 470 475 480

Glu Ala Leu Gln Glu Gly Arg Ser Ala Thr Leu Arg Tyr Pro Arg Ser
485 490 495

Pro Asp Gly Tyr Leu Gln Ile Gly Ser Phe Tyr Lys Gly Val Ala Glu
500 505 510

Gly Glu Val Asp Pro Ala Phe Gly Pro Leu Glu Ala Leu Arg Leu Ser
515 520 525

Ile Gln Thr Asp Ser Pro Val Trp Val Ile Leu Ser Glu Ile Phe Leu
530 535 540

Lys Lys Ala Asp
545

<210> 26
<211> 478
<212> PRT
<213> Mus musculus

<400> 26

Met Leu Lys Phe Tyr Gln Met Lys Tyr Ile Phe Gln Ile Leu Asp Lys
1 5 10 15

Met Arg Cys Leu Arg Lys Arg Ser Thr Val Ser Phe Leu Gly Val Leu
20 25 30

Val Val Phe Leu Leu Phe Met Asn Leu Tyr Ile Glu Asp Ser Tyr Val
35 40 45

Leu Glu Gly Asp Lys Gln Leu Ile Arg Glu Thr Ser Thr His Gln Leu
50 55 60

Asn Ser Glu Arg Tyr Val His Thr Phe Lys Asp Leu Ser Asn Phe Ser
65 70 75 80

Gly Thr Ile Asn Val Thr Tyr Arg Tyr Leu Ala Ala Thr Pro Leu Gln
85 90 95

Arg Lys Arg Tyr Leu Thr Ile Gly Leu Ser Ser Val Lys Arg Lys Lys
100 105 110

Gly Asn Tyr Leu Leu Asp Thr Ile Lys Ser Ile Phe Glu Gln Ser Ser
115 120 125

Tyr Glu Glu Leu Lys Glu Ile Ser Val Val Val His Leu Ala Asp Phe
130 135 140

Asn Ser Ser Trp Arg Asp Ala Met Val Gln Asp Ile Thr Gln Lys Phe
145 150 155 160

Ala His His Ile Ile Ala Gly Arg Leu Met Val Ile His Ala Pro Glu
165 170 175

Glu Tyr Tyr Pro Val Leu Asp Gly Leu Lys Arg Asn Tyr Asn Asp Pro
180 185 190

Glu Asp Arg Val Arg Phe Arg Ser Lys Gln Asn Val Asp Tyr Ala Phe
195 200 205

Leu Leu Asn Phe Cys Ala Asn Thr Ser Asp Tyr Tyr Val Met Leu Glu
210 215 220

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

Ile Ala Ser Leu Glu Gly Thr Tyr Trp Val Thr Leu Glu Phe Ser Lys
245 250 255

Leu Gly Tyr Ile Gly Lys Leu Tyr His Ser His Asp Leu Pro Arg Leu
260 265 270

Ala His Phe Leu Leu Met Phe Tyr Gln Glu Met Pro Cys Asp Trp Leu
275 280 285

Leu Thr His Phe Arg Gly Leu Leu Ala Gln Lys Asn Val Ile Arg Phe

290

295

300

Lys Pro Ser Leu Phe Gln His Met Gly Tyr Tyr Ser Ser Tyr Lys Gly
 305 310 315 320

Thr Glu Asn Lys Leu Lys Asp Asp Asp Phe Glu Glu Glu Ser Phe Asp
 325 330 335

Ile Pro Asp Asn Pro Pro Ala Ser Phe Tyr Thr Asn Met Asn Val Phe
 340 345 350

Glu Asn Tyr Glu Ala Ser Lys Ala Tyr Ser Ser Val Asp Glu Tyr Phe
 355 360 365

Trp Gly Lys Ser Pro Ser Met Gly Asp Thr Phe Val Ile Val Phe Glu
 370 375 380

Asn Pro Ile Thr Ile Lys Lys Ile Lys Val Asn Thr Gly Thr Glu Asp
 385 390 395 400

Arg Gln Asn Asp Ile Leu Gln His Gly Ala Leu Asp Val Gly Glu Lys
 405 410 415

Leu Ile Phe Ser Lys Gln Ile Arg Gln Cys Asp Thr Tyr Leu Arg Leu
 420 425 430

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

Ile Pro Phe Asp Ile His Cys Met Arg Ile Cys Val Thr Lys Thr Gln
 450 455 460

Lys Glu Trp Leu Ile Ile Arg Ser Ile Ser Ile Trp Thr Ser
 465 470 475

<210> 27

<211> 535

<212> PRT

<213> Homo sapiens

<400> 27

Met Arg Leu Arg Asn Gly Thr Val Ala Thr Ala Leu Ala Phe Ile Thr
 1 5 10 15

Ser Phe Leu Thr Leu Ser Trp Tyr Thr Thr Trp Gln Asn Gly Lys Glu
 20 25 30

Lys Leu Ile Ala Tyr Gln Arg Glu Phe Leu Ala Leu Lys Glu Arg Leu
35 40 45

Arg Ile Ala Glu His Arg Ile Ser Gln Arg Ser Ser Glu Leu Asn Thr
50 55 60

Ile Val Gln Gln Phe Lys Arg Val Gly Ala Glu Thr Asn Gly Ser Lys
65 70 75 80

Asp Ala Leu Asn Lys Phe Ser Asp Asn Thr Leu Lys Leu Leu Lys Glu
85 90 95

Leu Thr Ser Lys Lys Ser Leu Gln Val Pro Ser Ile Tyr Tyr His Leu
100 105 110

Pro His Leu Leu Lys Asn Glu Gly Ser Leu Gln Pro Ala Val Gln Ile
115 120 125

Gly Asn Gly Arg Thr Gly Val Ser Ile Val Met Gly Ile Pro Thr Val
130 135 140

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

Asp Asn Leu Tyr Pro Glu Glu Lys Leu Asp Cys Val Ile Val Val Phe
165 170 175

Ile Gly Glu Thr Asp Ile Asp Tyr Val His Gly Val Val Ala Asn Leu
180 185 190

Glu Lys Glu Phe Ser Lys Glu Ile Ser Ser Gly Leu Val Glu Val Ile
195 200 205

Ser Pro Pro Glu Ser Tyr Tyr Pro Asp Leu Thr Asn Leu Lys Glu Thr
210 215 220

Phe Gly Asp Ser Lys Glu Arg Val Arg Trp Arg Thr Lys Gln Asn Leu
225 230 235 240

Asp Tyr Cys Phe Leu Met Met Tyr Ala Gln Glu Lys Gly Ile Tyr Tyr
245 250 255

Ile Gln Leu Glu Asp Asp Ile Ile Val Lys Gln Asn Tyr Phe Asn Thr
260 265 270

Ile Lys Asn Phe Ala Leu Gln Leu Ser Ser Glu Glu Trp Met Ile Leu
275 280 285

Glu Phe Ser Gln Leu Gly Phe Ile Gly Lys Met Phe Gln Ala Pro Asp
290 295 300

Leu Thr Leu Ile Val Glu Phe Ile Phe Met Phe Tyr Lys Glu Lys Pro
305 310 315 320

Ile Asp Trp Leu Leu Asp His Ile Leu Trp Val Lys Val Cys Asn Pro
325 330 335

Glu Lys Asp Ala Lys His Cys Asp Arg Gln Lys Ala Asn Leu Arg Ile
340 345 350

Arg Phe Arg Pro Ser Leu Phe Gln His Val Gly Leu His Ser Ser Leu
355 360 365

Ser Gly Lys Ile Gln Lys Leu Thr Asp Lys Asp Tyr Met Lys Pro Leu
370 375 380

Leu Leu Lys Ile His Val Asn Pro Pro Ala Glu Val Ser Thr Ser Leu
385 390 395 400

Lys Val Tyr Gln Gly His Thr Leu Glu Lys Thr Tyr Met Gly Glu Asp
405 410 415

Phe Phe Trp Ala Ile Thr Pro Ile Ala Gly Asp Tyr Ile Leu Phe Lys
420 425 430

Phe Asp Lys Pro Val Asn Val Glu Ser Tyr Leu Phe His Ser Gly Asn
435 440 445

Gln Glu His Pro Gly Asp Ile Leu Leu Asn Thr Thr Val Glu Val Leu
450 455 460

Pro Phe Lys Ser Glu Gly Leu Glu Ile Ser Lys Glu Thr Lys Asp Lys
465 470 475 480

Arg Leu Glu Asp Gly Tyr Phe Arg Ile Gly Lys Phe Glu Asn Gly Val
485 490 495

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

Leu Ser Val Ile Gln Asn Ser Ala Val Trp Ala Ile Leu Asn Glu Ile

515

520

525

His Ile Lys Lys Ala Thr Asn
530 535

<210> 28
<211> 548
<212> PRT
<213> Homo sapiens

<400> 28

Met Arg Leu Arg Asn Gly Thr Phe Leu Thr Leu Leu Leu Phe Cys Leu
1 5 10 15

Cys Ala Phe Leu Ser Leu Ser Trp Tyr Ala Ala Leu Ser Gly Gln Lys
20 25 30

Gly Asp Val Val Asp Val Tyr Gln Arg Glu Phe Leu Ala Leu Arg Asp
35 40 45

Arg Leu His Ala Ala Glu Gln Glu Ser Leu Lys Arg Ser Lys Glu Leu
50 55 60

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

Leu Arg Asp Gly Asp Gly Asn Arg Thr Trp Gly Arg Leu Thr Glu Asp
85 90 95

Pro Arg Leu Lys Pro Trp Asn Gly Ser His Arg His Val Leu His Leu
100 105 110

Pro Thr Val Phe His His Leu Pro His Leu Leu Ala Lys Glu Ser Ser
115 120 125

Leu Gln Pro Ala Val Arg Val Gly Gln Gly Arg Thr Gly Val Ser Val
130 135 140

Val Met Gly Ile Pro Ser Val Arg Arg Glu Val His Ser Tyr Leu Thr
145 150 155 160

Asp Thr Leu His Ser Leu Ile Ser Glu Leu Ser Pro Gln Glu Lys Glu
165 170 175

Asp Ser Val Ile Val Val Leu Ile Ala Glu Thr Asp Ser Gln Tyr Thr
180 185 190

Ser Ala Val Thr Glu Asn Ile Lys Ala Leu Phe Pro Thr Glu Ile His
195 200 205

Ser Gly Leu Leu Glu Val Ile Ser Pro Ser Pro His Phe Tyr Pro Asp
210 215 220

Phe Ser Arg Leu Arg Glu Ser Phe Gly Asp Pro Lys Glu Arg Val Arg
225 230 235 240

Trp Arg Thr Lys Gln Asn Leu Asp Tyr Cys Phe Leu Met Met Tyr Ala
245 250 255

Gln Ser Lys Gly Ile Tyr Tyr Val Gln Leu Glu Asp Asp Ile Val Ala
260 265 270

Lys Pro Asn Tyr Leu Ser Thr Met Lys Asn Phe Ala Leu Gln Gln Pro
275 280 285

Ser Glu Asp Trp Met Ile Leu Glu Phe Ser Gln Leu Gly Phe Ile Gly
290 295 300

Lys Met Phe Lys Ser Leu Asp Leu Ser Leu Ile Val Glu Phe Ile Leu
305 310 315 320

Met Phe Tyr Arg Asp Lys Pro Ile Asp Trp Leu Leu Asp His Ile Leu
325 330 335

Trp Val Lys Val Cys Asn Pro Glu Lys Asp Ala Lys His Cys Asp Arg
340 345 350

Gln Lys Ala Asn Leu Arg Ile Arg Phe Lys Pro Ser Leu Phe Gln His
355 360 365

Val Gly Thr His Ser Ser Leu Ala Gly Lys Ile Gln Lys Leu Lys Asp
370 375 380

Lys Asp Phe Gly Lys Gln Ala Leu Arg Lys Glu His Val Asn Pro Pro
385 390 395 400

Ala Glu Val Ser Thr Ser Leu Lys Thr Tyr Gln His Phe Thr Leu Glu
405 410 415

Lys Ala Tyr Leu Arg Glu Asp Phe Phe Trp Ala Phe Thr Pro Ala Ala
420 425 430

Gly Asp Phe Ile Arg Phe Arg Phe Phe Gln Pro Leu Arg Leu Glu Arg
435 440 445

Phe Phe Phe Arg Ser Gly Asn Ile Glu His Pro Glu Asp Lys Leu Phe
450 455 460

Asn Thr Ser Val Glu Val Leu Pro Phe Asp Asn Pro Gln Ser Asp Lys
465 470 475 480

Glu Ala Leu Gln Glu Gly Arg Thr Ala Thr Leu Arg Tyr Pro Arg Ser
485 490 495

Pro Asp Gly Tyr Leu Gln Ile Gly Ser Phe Tyr Lys Gly Val Ala Glu
500 505 510

Gly Glu Val Asp Pro Ala Phe Gly Pro Leu Glu Ala Leu Arg Leu Ser
515 520 525

Ile Gln Thr Asp Ser Pro Val Trp Val Ile Leu Ser Glu Ile Phe Leu
530 535 540

Lys Lys Ala Asp
545

<210> 29
<211> 563
<212> PRT
<213> Homo sapiens

<400> 29

Met Ser Arg Val Ala Gly Thr Arg Thr Asp Val Asn Glu Leu Leu Gln
1 5 10 15

Arg Trp Thr Pro Arg Cys Val Arg Trp His Thr Gly Gly Ala Arg Arg
20 25 30

Val Ala Leu Asp Arg Pro Leu Val Thr Ala Cys Leu Pro Pro Ala Gly
35 40 45

Asp Val Val Asp Val Tyr Gln Arg Glu Phe Leu Ala Leu Arg Asp Arg
50 55 60

Leu His Ala Ala Glu Gln Glu Ser Leu Lys Arg Ser Lys Glu Leu Asn
65 70 75 80

Leu Val Leu Asp Glu Ile Lys Arg Ala Val Ser Glu Arg Gln Ala Leu
85 90 95

Arg Asp Gly Asp Gly Asn Arg Thr Trp Gly Arg Leu Thr Glu Asp Pro
100 105 110

Arg Leu Lys Pro Trp Asn Gly Ser His Arg His Val Leu His Leu Pro
115 120 125

Thr Val Phe His His Leu Pro His Leu Leu Ala Lys Glu Ser Ser Leu
130 135 140

Gln Pro Ala Val Arg Val Gly Gln Gly Arg Thr Gly Val Ser Val Val
145 150 155 160

Met Gly Ile Pro Ser Val Arg Arg Glu Val His Ser Tyr Leu Thr Asp
165 170 175

Thr Leu His Ser Leu Ile Ser Glu Leu Ser Pro Gln Glu Lys Glu Asp
180 185 190

Ser Val Ile Val Val Leu Ile Ala Glu Thr Asp Ser Gln Tyr Thr Ser
195 200 205

Ala Val Thr Glu Asn Ile Lys Ala Leu Phe Pro Thr Glu Ile His Ser
210 215 220

Gly Leu Leu Glu Val Ile Ser Pro Ser Pro His Phe Tyr Pro Asp Phe
225 230 235 240

Ser Arg Leu Arg Glu Ser Phe Gly Asp Pro Lys Glu Arg Val Arg Trp
245 250 255

Arg Thr Lys Gln Asn Leu Asp Tyr Cys Phe Leu Met Met Tyr Ala Gln
260 265 270

Ser Lys Gly Ile Tyr Tyr Val Gln Leu Glu Asp Asp Ile Val Ala Lys
275 280 285

Pro Asn Tyr Leu Ser Thr Met Lys Asn Phe Ala Leu Gln Gln Pro Ser
290 295 300

Glu Asp Trp Met Ile Leu Glu Phe Ser Gln Leu Gly Phe Ile Gly Lys
305 310 315 320

Met Phe Lys Ser Leu Asp Leu Ser Leu Ile Val Glu Phe Ile Leu Met
325 330 335

Phe Tyr Arg Asp Lys Pro Ile Asp Trp Leu Leu Asp His Ile Leu Trp
340 345 350

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

Lys Ala Asn Leu Arg Ile Arg Phe Lys Pro Ser Leu Phe Gln His Val
370 375 380

Gly Thr His Ser Ser Leu Ala Gly Lys Ile Gln Lys Leu Lys Asp Lys
385 390 395 400

Asp Phe Gly Lys Gln Ala Leu Arg Lys Glu His Val Asn Pro Pro Ala
405 410 415

Glu Val Ser Thr Ser Leu Lys Thr Tyr Gln His Phe Thr Leu Glu Lys
420 425 430

Ala Tyr Leu Arg Glu Asp Phe Phe Trp Ala Phe Thr Pro Ala Ala Gly
435 440 445

Asp Phe Ile Arg Phe Arg Phe Phe Gln Pro Leu Arg Leu Glu Arg Phe
450 455 460

Phe Phe Arg Ser Gly Asn Ile Glu His Pro Glu Asp Lys Leu Phe Asn
465 470 475 480

Thr Ser Val Glu Val Leu Pro Phe Asp Asn Pro Gln Ser Asp Lys Glu
485 490 495

Ala Leu Gln Glu Gly Arg Thr Ala Thr Leu Arg Tyr Pro Arg Ser Pro
500 505 510

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

Glu Val Asp Pro Ala Phe Gly Pro Leu Glu Ala Leu Arg Leu Ser Ile
530 535 540

Gln Thr Asp Ser Pro Val Trp Val Ile Leu Ser Glu Ile Phe Leu Lys
545 550 555 560

Lys Ala Asp

<210> 30
<211> 478
<212> PRT
<213> Homo sapiens

<400> 30

Met Phe Lys Phe His Gln Met Lys His Ile Phe Glu Ile Leu Asp Lys
1 5 10 15

Met Arg Cys Leu Arg Lys Arg Ser Thr Val Ser Phe Leu Gly Val Leu
20 25 30

Val Ile Phe Leu Leu Phe Met Asn Leu Tyr Ile Glu Asp Ser Tyr Val
35 40 45

Leu Glu Gly Asp Lys Gln Leu Ile Arg Glu Thr Ser Thr His Gln Leu
50 55 60

Asn Ser Glu Arg Tyr Val His Thr Phe Lys Asp Leu Ser Asn Phe Ser
65 70 75 80

Gly Ala Ile Asn Val Thr Tyr Arg Tyr Leu Ala Ala Thr Pro Leu Gln
85 90 95

Arg Lys Arg Tyr Leu Thr Ile Gly Leu Ser Ser Val Lys Arg Lys Lys
100 105 110

Gly Asn Tyr Leu Leu Glu Thr Ile Lys Ser Ile Phe Glu Gln Ser Ser
115 120 125

Tyr Glu Glu Leu Lys Glu Ile Ser Val Val Val His Leu Ala Asp Phe
130 135 140

Asn Ser Ser Trp Arg Asp Ala Met Val Gln Asp Ile Thr Gln Lys Phe
145 150 155 160

Ala His His Ile Ile Ala Gly Arg Leu Met Val Ile His Ala Pro Glu
165 170 175

Glu Tyr Tyr Pro Ile Leu Asp Gly Leu Lys Arg Asn Tyr Asn Asp Pro
180 185 190

Glu Asp Arg Val Lys Phe Arg Ser Lys Gln Asn Val Asp Tyr Ala Phe
195 200 205

Leu Leu Asn Phe Cys Ala Asn Thr Ser Asp Tyr Tyr Val Met Leu Glu
210 215 220

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

Ile Ala Ser Leu Glu Gly Thr Tyr Trp Val Thr Leu Glu Phe Ser Lys
245 250 255

Leu Gly Tyr Ile Gly Lys Leu Tyr His Ser His Asp Leu Pro Arg Leu
260 265 270

Ala His Phe Leu Leu Met Phe Tyr Gln Glu Met Pro Cys Asp Trp Leu
275 280 285

Leu Thr His Phe Arg Gly Leu Leu Ala Gln Lys Asn Val Ile Arg Phe
290 295 300

Lys Pro Ser Leu Phe Gln His Met Gly Tyr Tyr Ser Ser Tyr Lys Gly
305 310 315 320

Thr Glu Asn Lys Leu Lys Asp Asp Asp Phe Glu Glu Glu Ser Phe Asp
325 330 335

Ile Pro Asp Asn Pro Pro Ala Ser Leu Tyr Thr Asn Met Asn Val Phe
340 345 350

Glu Asn Tyr Glu Ala Ser Lys Ala Tyr Ser Ser Val Asp Glu Tyr Phe
355 360 365

Trp Gly Lys Pro Pro Ser Thr Gly Asp Val Phe Val Ile Val Phe Glu
370 375 380

Asn Pro Ile Ile Ile Lys Lys Ile Lys Val Asn Thr Gly Thr Glu Asp
385 390 395 400

Arg Gln Asn Asp Ile Leu His His Gly Ala Leu Asp Val Gly Glu Asn
405 410 415

Val Met Pro Ser Lys Gln Arg Arg Gln Cys Ser Thr Tyr Leu Arg Leu
420 425 430

Gly Glu Phe Lys Asn Gly Asn Phe Glu Met Ser Gly Val Asn Gln Lys
435 440 445

Ile Pro Phe Asp Ile His Cys Met Arg Ile Tyr Val Thr Lys Thr Gln
450 455 460

Lys Glu Trp Leu Ile Ile Arg Ser Ile Ser Ile Trp Thr Ser
465 470 475

<210> 31
<211> 740
<212> PRT
<213> Mus musculus

<400> 31

Met Ala Phe Phe Ser Pro Trp Lys Leu Ser Ser Gln Lys Leu Gly Phe
1 5 10 15

Phe Leu Val Thr Phe Gly Phe Ile Trp Gly Met Met Leu Leu His Phe
20 25 30

Thr Ile Gln Gln Arg Thr Gln Pro Glu Ser Ser Ser Met Leu Arg Glu
35 40 45

Gln Ile Leu Asp Leu Ser Lys Arg Tyr Ile Lys Ala Leu Ala Glu Glu
50 55 60

Asn Arg Asp Val Val Asp Gly Pro Tyr Ala Gly Val Met Thr Ala Tyr
65 70 75 80

Asp Leu Lys Lys Thr Leu Ala Val Leu Leu Asp Asn Ile Leu Gln Arg
85 90 95

Ile Gly Lys Leu Glu Ser Lys Val Asp Asn Leu Val Asn Gly Thr Gly
100 105 110

Ala Asn Ser Thr Asn Ser Thr Thr Ala Val Pro Ser Leu Val Ser Leu
115 120 125

Glu Lys Ile Asn Val Ala Asp Ile Ile Asn Gly Val Gln Glu Lys Cys
130 135 140

Val Leu Pro Pro Met Asp Gly Tyr Pro His Cys Glu Gly Lys Ile Lys
145 150 155 160

Trp Met Lys Asp Met Trp Arg Ser Asp Pro Cys Tyr Ala Asp Tyr Gly
165 170 175

Val Asp Gly Thr Ser Cys Ser Phe Phe Ile Tyr Leu Ser Glu Val Glu
180 185 190

Asn Trp Cys Pro Arg Leu Pro Trp Arg Ala Lys Asn Pro Tyr Glu Glu

195						200						205					
Ala	Asp	His	Asn	Ser	Leu	Ala	Glu	Ile	Arg	Thr	Asp	Phe	Asn	Ile	Leu		
210						215					220						
Tyr	Gly	Met	Met	Lys	Lys	His	Glu	Glu	Phe	Arg	Trp	Met	Arg	Leu	Arg		
225					230					235				240			
Ile	Arg	Arg	Met	Ala	Asp	Ala	Trp	Ile	Gln	Ala	Ile	Lys	Ser	Leu	Ala		
				245					250					255			
Glu	Lys	Gln	Asn	Leu	Glu	Lys	Arg	Lys	Arg	Lys	Lys	Ile	Leu	Val	His		
			260					265					270				
Leu	Gly	Leu	Leu	Thr	Lys	Glu	Ser	Gly	Phe	Lys	Ile	Ala	Glu	Thr	Ala		
		275					280					285					
Phe	Ser	Gly	Gly	Pro	Leu	Gly	Glu	Leu	Val	Gln	Trp	Ser	Asp	Leu	Ile		
	290						295				300						
Thr	Ser	Leu	Tyr	Leu	Leu	Gly	His	Asp	Ile	Arg	Ile	Ser	Ala	Ser	Leu		
305					310					315					320		
Ala	Glu	Leu	Lys	Glu	Ile	Met	Lys	Lys	Val	Val	Gly	Asn	Arg	Ser	Gly		
				325					330					335			
Cys	Pro	Thr	Val	Gly	Asp	Arg	Ile	Val	Glu	Leu	Ile	Tyr	Ile	Asp	Ile		
			340					345					350				
Val	Gly	Leu	Ala	Gln	Phe	Lys	Lys	Thr	Leu	Gly	Pro	Ser	Trp	Val	His		
		355					360					365					
Tyr	Gln	Cys	Met	Leu	Arg	Val	Leu	Asp	Ser	Phe	Gly	Thr	Glu	Pro	Glu		
	370						375				380						
Phe	Asn	His	Ala	Ser	Tyr	Ala	Gln	Ser	Lys	Gly	His	Lys	Thr	Pro	Trp		
385					390					395					400		
Gly	Lys	Trp	Asn	Leu	Asn	Pro	Gln	Gln	Phe	Tyr	Thr	Met	Phe	Pro	His		
			405						410					415			
Thr	Pro	Asp	Asn	Ser	Phe	Leu	Gly	Phe	Val	Val	Glu	Gln	His	Leu	Asn		
			420				425						430				
Ser	Ser	Asp	Ile	His	His	Ile	Asn	Glu	Ile	Lys	Arg	Gln	Asn	Gln	Ser		
		435					440						445				

Leu Val Tyr Gly Lys Val Asp Ser Phe Trp Lys Asn Lys Lys Ile Tyr
450 455 460

Leu Asp Ile Ile His Thr Tyr Met Glu Val His Ala Thr Val Tyr Gly
465 470 475 480

Ser Ser Thr Lys Asn Ile Pro Ser Tyr Val Lys Asn His Gly Ile Leu
485 490 495

Ser Gly Arg Asp Leu Gln Phe Leu Leu Arg Glu Thr Lys Leu Phe Val
500 505 510

Gly Leu Gly Phe Pro Tyr Glu Gly Pro Ala Pro Leu Glu Ala Ile Ala
515 520 525

Asn Gly Cys Ala Phe Leu Asn Pro Lys Phe Asn Pro Pro Lys Ser Ser
530 535 540

Lys Asn Thr Asp Phe Phe Ile Gly Lys Pro Thr Leu Arg Glu Leu Thr
545 550 555 560

Ser Gln His Pro Tyr Ala Glu Val Phe Ile Gly Arg Pro His Val Trp
565 570 575

Thr Val Asp Leu Asn Asn Arg Glu Glu Val Glu Asp Ala Val Lys Ala
580 585 590

Ile Leu Asn Gln Lys Ile Glu Pro Tyr Met Pro Tyr Glu Phe Thr Cys
595 600 605

Glu Gly Met Leu Gln Arg Ile Asn Ala Phe Ile Glu Lys Gln Asp Phe
610 615 620

Cys His Gly Gln Val Met Trp Pro Pro Leu Ser Ala Leu Gln Val Lys
625 630 635 640

Leu Ala Glu Pro Gly Gln Ser Cys Lys Gln Val Cys Gln Glu Ser Gln
645 650 655

Leu Ile Cys Glu Pro Ser Phe Phe Gln His Leu Asn Lys Glu Lys Asp
660 665 670

Leu Leu Lys Tyr Lys Val Thr Cys Gln Ser Ser Glu Leu Tyr Lys Asp
675 680 685

Ile Leu Val Pro Ser Phe Tyr Pro Lys Ser Lys His Cys Val Phe Gln
690 695 700

Gly Asp Leu Leu Leu Phe Ser Cys Ala Gly Ala His Pro Thr His Gln
705 710 715 720

Arg Ile Cys Pro Cys Arg Asp Phe Ile Lys Gly Gln Val Ala Leu Cys
725 730 735

Lys Asp Cys Leu
740

<210> 32
<211> 792
<212> PRT
<213> Mus musculus

<400> 32

Met Ile Thr Val Asn Pro Asp Gly Lys Ile Met Val Arg Arg Cys Leu
1 5 10 15

Val Thr Leu Arg Pro Phe Arg Leu Phe Val Leu Gly Ile Gly Phe Phe
20 25 30

Thr Leu Cys Phe Leu Met Thr Ser Leu Gly Gly Gln Phe Ser Ala Arg
35 40 45

Arg Leu Gly Asp Ser Pro Phe Thr Ile Arg Thr Glu Val Pro Gly Ser
50 55 60

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

Met Val Lys Arg Met Asp Met Leu Ala Arg Leu Glu Asn Ser Ser Glu
85 90 95

Leu His Arg Thr Ala Ser Val Ala His Leu Ala Ala Asp Arg Leu Thr
100 105 110

Pro Gly Ala Ser Leu Ile Glu Arg Ile Gln Ala Ile Ala Gln Asn Val
115 120 125

Ser Asp Ile Ala Val Lys Val Asp Gln Ile Leu Arg His Ser Leu Ile
130 135 140

Leu His Ser Lys Val Ser Glu Gly Arg Arg Asp Gln Cys Glu Ala Pro

145		150		155		160									
Ser	Asp	Pro	Lys	Phe	Pro	Asp	Cys	Ser	Gly	Lys	Val	Glu	Trp	Met	Arg
				165					170					175	
Ala	Arg	Trp	Thr	Ser	Asp	Pro	Cys	Tyr	Ala	Phe	Phe	Gly	Val	Asp	Gly
			180					185					190		
Thr	Glu	Cys	Ser	Phe	Leu	Ile	Tyr	Leu	Ser	Glu	Val	Glu	Trp	Phe	Cys
		195					200					205			
Pro	Pro	Leu	Pro	Trp	Arg	Asn	Gln	Thr	Ala	Ala	Arg	Thr	Ala	Pro	Lys
	210					215					220				
Ser	Leu	Pro	Arg	Val	Gln	Ala	Val	Phe	Arg	Ser	Asn	Leu	Ser	His	Leu
225					230					235					240
Leu	Glu	Leu	Met	Gly	Ser	Gly	Lys	Glu	Ser	Leu	Ile	Phe	Met	Lys	Lys
				245					250					255	
Arg	Thr	Arg	Arg	Phe	Thr	Ala	Gln	Trp	Thr	Lys	Ala	Ala	Lys	Tyr	Leu
			260					265					270		
Ala	Gln	Lys	Leu	Gly	Asp	Ile	Arg	Arg	Asp	Gln	Lys	Gln	Ile	Leu	Val
		275					280					285			
His	Ile	Gly	Phe	Leu	Thr	Glu	Glu	Ser	Gly	Asp	Val	Phe	Ser	Pro	Arg
	290					295					300				
Val	Leu	Lys	Gly	Gly	Pro	Leu	Gly	Glu	Met	Val	Gln	Trp	Ala	Asp	Ile
305					310					315					320
Leu	Ala	Ala	Leu	Tyr	Val	Leu	Gly	His	Ser	Leu	Arg	Ile	Thr	Val	Ser
				325					330					335	
Leu	Lys	Glu	Leu	Gln	Ser	Asn	Leu	Gly	Val	Pro	Pro	Gly	Arg	Gly	Asn
			340					345					350		
Cys	Pro	Leu	Thr	Val	Pro	Leu	Pro	Phe	Asp	Leu	Ile	Tyr	Thr	Asp	Tyr
		355					360					365			
His	Gly	Leu	Gln	Gln	Met	Lys	Gln	His	Met	Gly	Leu	Ser	Phe	Lys	Lys
	370					375					380				
Tyr	Arg	Cys	Arg	Ile	Arg	Val	Ile	Asp	Thr	Phe	Gly	Thr	Glu	Pro	Ala
385					390					395					400

Tyr Asn His Glu Glu Tyr Ala Thr Leu His Gly Tyr Arg Thr Asn Trp
405 410 415

Gly Tyr Trp Asn Leu Asn Pro Lys Gln Phe Met Thr Met Phe Pro His
420 425 430

Thr Pro Asp Asn Ser Phe Met Gly Phe Val Ser Glu Glu Leu Asn Glu
435 440 445

Thr Glu Lys Gln Leu Ile Lys Asp Gly Lys Ala Ser Asn Met Ala Val
450 455 460

Val Tyr Gly Lys Glu Ala Ser Ile Trp Lys Leu Gln Gly Lys Glu Lys
465 470 475 480

Phe Leu Ala Val Leu Asn Lys Tyr Met Glu Ile His Gly Thr Val Tyr
485 490 495

Tyr Glu Ser Gln Arg Pro Pro Glu Val Pro Ala Phe Val Lys Asn His
500 505 510

Gly Leu Leu Pro Gln Pro Glu Phe Gln Gln Leu Leu Arg Lys Ala Lys
515 520 525

Leu Phe Ile Gly Phe Gly Phe Pro Tyr Glu Gly Pro Ala Pro Leu Glu
530 535 540

Ala Ile Ala Asn Gly Cys Ile Phe Leu Gln Ser Arg Phe Ser Pro Pro
545 550 555 560

His Ser Ser Leu Asn His Glu Phe Phe Arg Gly Lys Pro Thr Ser Arg
565 570 575

Glu Val Phe Ser Gln His Pro Tyr Ala Glu Asn Phe Ile Gly Lys Pro
580 585 590

His Val Trp Thr Val Asp Tyr Asn Asn Ser Asp Glu Phe Glu Thr Ala
595 600 605

Ile Lys Ala Ile Met Asn Thr Gln Val Asp Pro Tyr Leu Pro Tyr Glu
610 615 620

Tyr Thr Cys Ala Gly Met Leu Glu Arg Ile Asn Ala Tyr Ile Gln His
625 630 635 640

Gln Asp Phe Cys Val Gly Pro Ser Pro Leu Pro Pro Gly Ala Ser Thr
645 650 655

Ala Gln Ser Pro Phe Val Leu Ala Pro Asn Ala Thr His Leu Glu Trp
660 665 670

Ala Gln Asn Ile Ser Ser Val Pro Gly Ala Trp Pro Pro Thr His Ser
675 680 685

Leu Arg Ala Trp Leu Ala Ala Pro Gly Arg Ala Cys Thr Asp Ala Cys
690 695 700

Leu Asp His Gly Leu Ile Cys Glu Pro Ser Phe Phe Pro Phe Leu Asn
705 710 715 720

Ser Gln Asn Ser Phe Leu Lys Leu Gln Val Pro Cys Asp Ser Thr Glu
725 730 735

Trp Glu Met His His Leu Tyr Pro Ala Phe Ala Gln Pro Gly Gln Glu
740 745 750

Cys Tyr Leu Gln Lys Glu Pro Leu Leu Phe Ser Cys Ala Gly Ala Ser
755 760 765

Thr Lys Tyr Gln Arg Leu Cys Pro Cys Arg Asp Phe Arg Lys Gly Gln
770 775 780

Val Ala Leu Cys Gln Gly Cys Leu
785 790

<210> 33
<211> 741
<212> PRT
<213> Homo sapiens

<400> 33

Met Ala Leu Phe Thr Pro Trp Lys Leu Ser Ser Gln Lys Leu Gly Phe
1 5 10 15

Phe Leu Val Thr Phe Gly Phe Ile Trp Gly Met Met Leu Leu His Phe
20 25 30

Thr Ile Gln Gln Arg Thr Gln Pro Glu Ser Ser Ser Met Leu Arg Glu
35 40 45

Gln Ile Leu Asp Leu Ser Lys Arg Tyr Ile Lys Ala Leu Ala Glu Glu

50

55

60

Asn Arg Asn Val Val Asp Gly Pro Tyr Ala Gly Val Met Thr Ala Tyr
65 70 75 80

Asp Leu Lys Lys Thr Leu Ala Val Leu Leu Asp Asn Ile Leu Gln Arg
85 90 95

Ile Gly Lys Leu Glu Ser Lys Val Asp Asn Leu Val Val Asn Gly Thr
100 105 110

Gly Thr Asn Ser Thr Asn Ser Thr Thr Ala Val Pro Ser Leu Val Ala
115 120 125

Leu Glu Lys Ile Asn Val Ala Asp Ile Ile Asn Gly Ala Gln Glu Lys
130 135 140

Cys Val Leu Pro Pro Met Asp Gly Tyr Pro His Cys Glu Gly Lys Ile
145 150 155 160

Lys Trp Met Lys Asp Met Trp Arg Ser Asp Pro Cys Tyr Ala Asp Tyr
165 170 175

Gly Val Asp Gly Ser Thr Cys Ser Phe Phe Ile Tyr Leu Ser Glu Val
180 185 190

Glu Asn Trp Cys Pro His Leu Pro Trp Arg Ala Lys Asn Pro Tyr Glu
195 200 205

Glu Ala Asp His Asn Ser Leu Ala Glu Ile Arg Thr Asp Phe Asn Ile
210 215 220

Leu Tyr Ser Met Met Lys Lys His Glu Glu Phe Arg Trp Met Arg Leu
225 230 235 240

Arg Ile Arg Arg Met Ala Asp Ala Trp Ile Gln Ala Ile Lys Ser Leu
245 250 255

Ala Glu Lys Gln Asn Leu Glu Lys Arg Lys Arg Lys Lys Val Leu Val
260 265 270

His Leu Gly Leu Leu Thr Lys Glu Ser Gly Phe Lys Ile Ala Glu Thr
275 280 285

Ala Phe Ser Gly Gly Pro Leu Gly Glu Leu Val Gln Trp Ser Asp Leu
290 295 300

Ile Thr Ser Leu Tyr Leu Leu Gly His Asp Ile Arg Ile Ser Ala Ser
305 310 315 320

Leu Ala Glu Leu Lys Glu Ile Met Lys Lys Val Val Gly Asn Arg Ser
325 330 335

Gly Cys Pro Thr Val Gly Asp Arg Ile Val Glu Leu Ile Tyr Ile Asp
340 345 350

Ile Val Gly Leu Ala Gln Phe Lys Lys Thr Leu Gly Pro Ser Trp Val
355 360 365

His Tyr Gln Cys Met Leu Arg Val Leu Asp Ser Phe Gly Thr Glu Pro
370 375 380

Glu Phe Asn His Ala Asn Tyr Ala Gln Ser Lys Gly His Lys Thr Pro
385 390 395 400

Trp Gly Lys Trp Asn Leu Asn Pro Gln Gln Phe Tyr Thr Met Phe Pro
405 410 415

His Thr Pro Asp Asn Ser Phe Leu Gly Phe Val Val Glu Gln His Leu
420 425 430

Asn Ser Ser Asp Ile His His Ile Asn Glu Ile Lys Arg Gln Asn Gln
435 440 445

Ser Leu Val Tyr Gly Lys Val Asp Ser Phe Trp Lys Asn Lys Lys Ile
450 455 460

Tyr Leu Asp Ile Ile His Thr Tyr Met Glu Val His Ala Thr Val Tyr
465 470 475 480

Gly Ser Ser Thr Lys Asn Ile Pro Ser Tyr Val Lys Asn His Gly Ile
485 490 495

Leu Ser Gly Arg Asp Leu Gln Phe Leu Leu Arg Glu Thr Lys Leu Phe
500 505 510

Val Gly Leu Gly Phe Pro Tyr Glu Gly Pro Ala Pro Leu Glu Ala Ile
515 520 525

Ala Asn Gly Cys Ala Phe Leu Asn Pro Lys Phe Asn Pro Pro Lys Ser
530 535 540

Ser Lys Asn Thr Asp Phe Phe Ile Gly Lys Pro Thr Leu Arg Glu Leu
545 550 555 560

Thr Ser Gln His Pro Tyr Ala Glu Val Phe Ile Gly Arg Pro His Val
565 570 575

Trp Thr Val Asp Leu Asn Asn Gln Glu Glu Val Glu Asp Ala Val Lys
580 585 590

Ala Ile Leu Asn Gln Lys Ile Glu Pro Tyr Met Pro Tyr Glu Phe Thr
595 600 605

Cys Glu Gly Met Leu Gln Arg Ile Asn Ala Phe Ile Glu Lys Gln Asp
610 615 620

Phe Cys His Gly Gln Val Met Trp Pro Pro Leu Ser Ala Leu Gln Val
625 630 635 640

Lys Leu Ala Glu Pro Gly Gln Ser Cys Lys Gln Val Cys Gln Glu Ser
645 650 655

Gln Leu Ile Cys Glu Pro Ser Phe Phe Gln His Leu Asn Lys Asp Lys
660 665 670

Asp Met Leu Lys Tyr Lys Val Thr Cys Gln Ser Ser Glu Leu Ala Lys
675 680 685

Asp Ile Leu Val Pro Ser Phe Asp Pro Lys Asn Lys His Cys Val Phe
690 695 700

Gln Gly Asp Leu Leu Leu Phe Ser Cys Ala Gly Ala His Pro Arg His
705 710 715 720

Gln Arg Val Cys Pro Cys Arg Asp Phe Ile Lys Gly Gln Val Ala Leu
725 730 735

Cys Lys Asp Cys Leu
740

<210> 34
<211> 790
<212> PRT
<213> Homo sapiens

<400> 34

Met Ile Thr Val Asn Pro Asp Gly Lys Ile Met Val Arg Arg Cys Leu

1		5		10		15													
Val	Thr	Leu	Arg	Pro	Phe	Arg	Leu	Phe	Val	Leu	Gly	Ile	Gly	Phe	Phe				
			20					25					30						
Thr	Leu	Cys	Phe	Leu	Met	Thr	Ser	Leu	Gly	Gly	Gln	Phe	Ser	Ala	Arg				
		35					40					45							
Arg	Leu	Gly	Asp	Ser	Pro	Phe	Thr	Ile	Arg	Thr	Glu	Val	Met	Gly	Gly				
	50					55					60								
Pro	Glu	Ser	Arg	Gly	Val	Leu	Arg	Lys	Met	Ser	Asp	Leu	Leu	Glu	Leu				
65					70					75					80				
Met	Val	Lys	Arg	Met	Asp	Ala	Leu	Ala	Arg	Leu	Glu	Asn	Ser	Ser	Glu				
				85					90					95					
Leu	His	Arg	Ala	Gly	Gly	Asp	Leu	His	Phe	Pro	Ala	Asp	Arg	Met	Pro				
			100					105					110						
Pro	Gly	Ala	Gly	Leu	Met	Glu	Arg	Ile	Gln	Ala	Ile	Ala	Gln	Asn	Val				
		115					120					125							
Ser	Asp	Ile	Ala	Val	Lys	Val	Asp	Gln	Ile	Leu	Arg	His	Ser	Leu	Leu				
	130					135					140								
Leu	His	Ser	Lys	Val	Ser	Glu	Gly	Arg	Arg	Asp	Gln	Cys	Glu	Ala	Pro				
145					150					155					160				
Ser	Asp	Pro	Lys	Phe	Pro	Asp	Cys	Ser	Gly	Lys	Val	Glu	Trp	Met	Arg				
				165					170					175					
Ala	Arg	Trp	Thr	Ser	Asp	Pro	Cys	Tyr	Ala	Phe	Phe	Gly	Val	Asp	Gly				
			180					185					190						
Thr	Glu	Cys	Ser	Phe	Leu	Ile	Tyr	Leu	Ser	Glu	Val	Glu	Trp	Phe	Cys				
		195					200					205							
Pro	Pro	Leu	Pro	Trp	Arg	Asn	Gln	Thr	Ala	Ala	Gln	Arg	Ala	Pro	Lys				
	210					215					220								
Pro	Leu	Pro	Lys	Val	Gln	Ala	Val	Phe	Arg	Ser	Asn	Leu	Ser	His	Leu				
225					230					235					240				
Leu	Asp	Leu	Met	Gly	Ser	Gly	Lys	Glu	Ser	Leu	Ile	Phe	Met	Lys	Lys				
				245					250					255					

Arg Thr Lys Arg Leu Thr Ala Gln Trp Ala Leu Ala Ala Gln Arg Leu
260 265 270

Ala Gln Lys Leu Gly Ala Thr Gln Arg Asp Gln Lys Gln Ile Leu Val
275 280 285

His Ile Gly Phe Leu Thr Glu Glu Ser Gly Asp Val Phe Ser Pro Arg
290 295 300

Val Leu Lys Gly Gly Pro Leu Gly Glu Met Val Gln Trp Ala Asp Ile
305 310 315 320

Leu Thr Ala Leu Tyr Val Leu Gly His Gly Leu Arg Val Thr Val Ser
325 330 335

Leu Lys Glu Leu Gln Ser Asn Leu Gly Val Pro Pro Gly Arg Gly Ser
340 345 350

Cys Pro Leu Thr Met Pro Leu Pro Phe Asp Leu Ile Tyr Thr Asp Tyr
355 360 365

His Gly Leu Gln Gln Met Lys Arg His Met Gly Leu Ser Phe Lys Lys
370 375 380

Tyr Arg Cys Arg Ile Arg Val Ile Asp Thr Phe Gly Thr Glu Pro Ala
385 390 395 400

Tyr Asn His Glu Glu Tyr Ala Thr Leu His Gly Tyr Arg Thr Asn Trp
405 410 415

Gly Tyr Trp Asn Leu Asn Pro Lys Gln Phe Met Thr Met Phe Pro His
420 425 430

Thr Pro Asp Asn Ser Phe Met Gly Phe Val Ser Glu Glu Leu Asn Glu
435 440 445

Thr Glu Lys Arg Leu Ile Lys Gly Gly Lys Ala Ser Asn Met Ala Val
450 455 460

Val Tyr Gly Lys Glu Ala Ser Ile Trp Lys Gly Lys Glu Lys Phe Leu
465 470 475 480

Gly Ile Leu Asn Lys Tyr Met Glu Ile His Gly Thr Val Tyr Tyr Glu
485 490 495

Ser Gln Arg Pro Pro Glu Val Pro Ala Phe Val Lys Asn His Gly Leu
500 505 510

Leu Pro Gln Pro Glu Phe Gln Gln Leu Leu Arg Lys Ala Lys Leu Phe
515 520 525

Ile Gly Phe Gly Phe Pro Tyr Glu Gly Pro Ala Pro Leu Glu Ala Ile
530 535 540

Ala Asn Gly Cys Ile Phe Leu Gln Ser Arg Phe Ser Pro Pro His Ser
545 550 555 560

Ser Leu Asn His Glu Phe Phe Arg Gly Lys Pro Thr Ser Arg Glu Val
565 570 575

Phe Ser Gln His Pro Tyr Ala Glu Asn Phe Ile Gly Lys Pro His Val
580 585 590

Trp Thr Val Asp Tyr Asn Asn Ser Glu Glu Phe Glu Ala Ala Ile Lys
595 600 605

Ala Ile Met Arg Thr Gln Val Asp Pro Tyr Leu Pro Tyr Glu Tyr Thr
610 615 620

Cys Glu Gly Met Leu Glu Arg Ile His Ala Tyr Ile Gln His Gln Asp
625 630 635 640

Phe Cys Arg Ala Pro Asp Pro Ala Leu Pro Glu Ala His Ala Pro Gln
645 650 655

Ser Pro Phe Val Leu Ala Pro Asn Ala Thr His Leu Glu Trp Ala Arg
660 665 670

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

Ala Trp Leu Ala Val Pro Gly Arg Ala Cys Thr Asp Thr Cys Leu Asp
690 695 700

His Gly Leu Ile Cys Glu Pro Ser Phe Phe Pro Phe Leu Asn Ser Gln
705 710 715 720

Asp Ala Phe Leu Lys Leu Gln Val Pro Cys Asp Ser Thr Glu Ser Glu
725 730 735

Met Asn His Leu Tyr Pro Ala Phe Ala Gln Pro Gly Gln Glu Cys Tyr
740 745 750

Leu Gln Lys Glu Pro Leu Leu Phe Ser Cys Ala Gly Ser Asn Thr Lys
755 760 765

Tyr Arg Arg Leu Cys Pro Cys Arg Asp Phe Arg Lys Gly Gln Val Ala
770 775 780

Leu Cys Gln Gly Cys Leu
785 790

<210> 35
<211> 801
<212> PRT
<213> Homo sapiens

<400> 35

Met His Ser Phe Val Lys His Leu Cys Ser Arg Tyr Val Val Glu Arg
1 5 10 15

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

Arg Arg Leu Phe Val Leu Gly Ile Gly Phe Phe Thr Leu Cys Phe Leu
35 40 45

Met Thr Ser Leu Gly Gly Gln Phe Ser Ala Arg Arg Leu Gly Asp Ser
50 55 60

Pro Phe Thr Ile Arg Thr Glu Val Met Gly Gly Pro Glu Ser Arg Gly
65 70 75 80

Val Leu Arg Lys Met Ser Asp Leu Leu Glu Leu Met Val Lys Arg Met
85 90 95

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

Gly Asp Leu His Phe Pro Ala Asp Arg Met Pro Pro Gly Ala Gly Leu
115 120 125

Met Glu Arg Ile Gln Ala Ile Ala Gln Asn Val Ser Asp Ile Ala Val
130 135 140

Lys Val Asp Gln Ile Leu Arg His Ser Leu Leu Leu His Ser Lys Val
145 150 155 160

Ser Glu Gly Arg Arg Asp Gln Cys Glu Ala Pro Ser Asp Pro Lys Phe
165 170 175

Pro Asp Cys Ser Gly Lys Val Glu Trp Met Arg Ala Arg Trp Thr Ser
180 185 190

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

Leu Ile Tyr Leu Ser Glu Val Glu Trp Phe Cys Pro Pro Leu Pro Trp
210 215 220

Arg Asn Gln Thr Ala Ala Gln Arg Ala Pro Lys Pro Leu Pro Lys Val
225 230 235 240

Gln Ala Val Phe Arg Ser Asn Leu Ser His Leu Leu Asp Leu Met Gly
245 250 255

Ser Gly Lys Glu Ser Leu Ile Phe Met Lys Lys Arg Thr Lys Arg Leu
260 265 270

Thr Ala Gln Trp Ala Leu Ala Ala Gln Arg Leu Ala Gln Lys Leu Gly
275 280 285

Ala Thr Gln Arg Asp Gln Lys Gln Ile Leu Val His Ile Gly Phe Leu
290 295 300

Thr Glu Glu Ser Gly Asp Val Phe Ser Pro Arg Val Leu Lys Gly Gly
305 310 315 320

Pro Leu Gly Glu Met Val Gln Trp Ala Asp Ile Leu Thr Ala Leu Tyr
325 330 335

Val Leu Gly His Gly Leu Arg Val Thr Val Ser Leu Lys Glu Leu Gln
340 345 350

Ser Asn Leu Gly Val Pro Pro Gly Arg Gly Ser Cys Pro Leu Thr Met
355 360 365

Pro Leu Pro Phe Asp Leu Ile Tyr Thr Asp Tyr His Gly Leu Gln Gln
370 375 380

Met Lys Arg His Met Gly Leu Ser Phe Lys Lys Tyr Arg Cys Arg Ile
385 390 395 400

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

Tyr Ala Thr Leu His Gly Tyr Arg Thr Asn Trp Gly Tyr Trp Asn Leu
420 425 430

Asn Pro Lys Gln Phe Met Thr Met Phe Pro His Thr Pro Asp Asn Ser
435 440 445

Phe Met Gly Phe Val Ser Glu Glu Leu Asn Glu Thr Glu Lys Arg Leu
450 455 460

Ile Lys Gly Gly Lys Ala Ser Asn Met Ala Val Val Tyr Gly Lys Glu
465 470 475 480

Ala Ser Ile Trp Lys Gly Lys Glu Lys Phe Leu Gly Ile Leu Asn Lys
485 490 495

Tyr Met Glu Ile His Gly Thr Val Tyr Tyr Glu Ser Gln Arg Pro Pro
500 505 510

Glu Val Pro Ala Phe Val Lys Asn His Gly Leu Leu Pro Gln Pro Glu
515 520 525

Phe Gln Gln Leu Leu Arg Lys Ala Lys Leu Phe Ile Gly Phe Gly Phe
530 535 540

Pro Tyr Glu Gly Pro Ala Pro Leu Glu Ala Ile Ala Asn Gly Cys Ile
545 550 555 560

Phe Leu Gln Ser Arg Phe Ser Pro Pro His Ser Ser Leu Asn His Glu
565 570 575

Phe Phe Arg Gly Lys Pro Thr Ser Arg Glu Val Phe Ser Gln His Pro
580 585 590

Tyr Ala Glu Asn Phe Ile Gly Lys Pro His Val Trp Thr Val Asp Tyr
595 600 605

Asn Asn Ser Glu Glu Phe Glu Ala Ala Ile Lys Ala Ile Met Arg Thr
610 615 620

Gln Val Asp Pro Tyr Leu Pro Tyr Glu Tyr Thr Cys Glu Gly Met Leu
625 630 635 640

Glu Arg Ile His Ala Tyr Ile Gln His Gln Asp Phe Cys Arg Ala Pro
645 650 655

Asp Pro Ala Leu Pro Glu Ala His Ala Pro Gln Ser Pro Phe Val Leu
660 665 670

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

Pro Gly Ala Trp Pro Pro Ala His Ala Leu Arg Ala Trp Leu Ala Val
690 695 700

Pro Gly Arg Ala Cys Thr Asp Thr Cys Leu Asp His Gly Leu Ile Cys
705 710 715 720

Glu Pro Ser Phe Phe Pro Phe Leu Asn Ser Gln Asp Ala Phe Leu Lys
725 730 735

Leu Gln Val Pro Cys Asp Ser Thr Glu Ser Glu Met Asn His Leu Tyr
740 745 750

Pro Ala Phe Ala Gln Pro Gly Gln Glu Cys Tyr Leu Gln Lys Glu Pro
755 760 765

Leu Leu Phe Ser Cys Ala Gly Ser Asn Thr Lys Tyr Arg Arg Leu Cys
770 775 780

Pro Cys Arg Asp Phe Arg Lys Gly Gln Val Ala Leu Cys Gln Gly Cys
785 790 795 800

Leu

<210> 36

<211> 464

<212> PRT

<213> Gallus gallus

<400> 36

Met Arg Cys Ser Pro Lys Arg Ser Leu Thr Ala Val Ile Ala Ala Ser
1 5 10 15

Phe Leu Leu Leu Leu Leu Leu Leu Leu Leu His Arg Gly Ser Trp Gln
20 25 30

Asp Pro Gln Glu Val Gln Phe Arg Asp Leu Pro Ser Asp Ala Val Leu
35 40 45

Lys Ile Leu Lys Gln Gly Ser Leu His Ile Leu Gln Asp Thr Asp Asn
50 55 60

Leu Cys Ala Leu His Asn Ile Ser Tyr His Leu Leu Ala Gly Ser Pro
65 70 75 80

Leu Pro His Lys Lys Phe Leu Ala Val Gly Leu Ser Ser Val Arg Arg
85 90 95

Pro Arg Gly Tyr Tyr Leu Pro Asp Thr Leu Gln Ser Leu Phe Lys Gln
100 105 110

Ser Ser Glu Glu Glu Leu Gln Glu Met Val Val Val Val His Leu Ala
115 120 125

Asp Ala Asp Pro Ile Trp Asn Ala Gln Val Ala Ala Asp Ile Ser His
130 135 140

Arg Phe Ala His His Ile Leu Leu Gly Arg Leu Val Leu Ile His Thr
145 150 155 160

Pro His Glu Phe Tyr Pro Thr Leu Glu Gly Leu Lys Arg Asn Tyr Asn
165 170 175

Asp Pro Glu Glu Arg Val Lys Phe Arg Ser Lys Gln Asn Val Asp Tyr
180 185 190

Ala Phe Leu Phe Thr Phe Ala Ala Asn Leu Ser Ser Tyr Tyr Leu Met
195 200 205

Ile Glu Asp Asp Val Trp Ser Ala Lys Ser Phe Phe Thr Ala Ile Arg
210 215 220

Lys Ala Val Ala Ser Gln Glu Gly Ser Asn Trp Ala Thr Leu Glu Phe
225 230 235 240

Ser Lys Leu Gly Tyr Ile Gly Lys Leu Tyr Arg Ser Ser Asp Leu Pro
245 250 255

Arg Leu Ala Arg Phe Leu Leu Leu Phe Tyr Gln Glu Met Pro Cys Asp
260 265 270

Trp Leu Leu Thr His Phe Arg Leu Leu Leu Thr Gln Lys Asp Val Ile
275 280 285

Arg Phe Lys Pro Ser Leu Phe Gln His Met Gly Leu Tyr Ser Ser Phe
290 295 300

Gln Gly Thr Val Asn Arg Leu Glu Asp Asp Glu Phe Gln Ala Asp Ala
305 310 315 320

Met Asp Leu Pro Asp Asn Pro Pro Ala Ala Leu Phe Thr Asn Met Val
325 330 335

Val Phe Glu Asn Tyr Glu Pro Ser Lys Ala Tyr Ser Thr Ala Arg Gly
340 345 350

Tyr Phe Trp Gly Lys Asn Pro Ala Val Gly Ser Ile Phe Ser Ile Val
355 360 365

Phe His Gln Pro Ala Arg Val Thr Arg Val Arg Val Gln Thr Gly Ser
370 375 380

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

Arg Gly Arg Arg Ala Asp Gly Arg Asp Cys Ser Val Tyr Thr Thr Val
405 410 415

Gly Thr Phe Glu Lys Gly Asn Leu Glu Trp Arg Gly Leu Glu Lys Gly
420 425 430

Met Pro Asn Pro Val Glu Cys Val Arg Ile Arg Val Thr Gln Ser Gln
435 440 445

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

<210> 37
<211> 1150
<212> PRT
<213> Mus musculus

<400> 37

Met Lys Leu Ser Arg Gln Phe Thr Val Phe Gly Ser Ala Ile Phe Cys
1 5 10 15

Val Val Ile Phe Ser Leu Tyr Leu Met Leu Asp Arg Gly His Leu Asp
20 25 30

Tyr Pro Arg Gly Pro Arg Gln Glu Gly Ser Phe Pro Gln Gly Gln Leu

35

40

45

Ser Ile Leu Gln Glu Lys Ile Asp His Leu Glu Arg Leu Leu Ala Glu
50 55 60

Asn Asn Glu Ile Ile Ser Asn Ile Arg Asp Ser Val Ile Asn Leu Ser
65 70 75 80

Glu Ser Val Glu Asp Gly Pro Arg Gly Ser Pro Gly Asn Ala Ser Gln
85 90 95

Gly Ser Ile His Leu His Ser Pro Gln Leu Ala Leu Gln Ala Asp Pro
100 105 110

Arg Asp Cys Leu Phe Ala Ser Gln Ser Gly Ser Gln Pro Arg Asp Val
115 120 125

Gln Met Leu Asp Val Tyr Asp Leu Ile Pro Phe Asp Asn Pro Asp Gly
130 135 140

Gly Val Trp Lys Gln Gly Phe Asp Ile Lys Tyr Glu Ala Asp Glu Trp
145 150 155 160

Asp His Glu Pro Leu Gln Val Phe Val Val Pro His Ser His Asn Asp
165 170 175

Pro Gly Trp Leu Lys Thr Phe Asn Asp Tyr Phe Arg Asp Lys Thr Gln
180 185 190

Tyr Ile Phe Asn Asn Met Val Leu Lys Leu Lys Glu Asp Ser Ser Arg
195 200 205

Lys Phe Met Trp Ser Glu Ile Ser Tyr Leu Ala Lys Trp Trp Asp Ile
210 215 220

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

Gln Leu Glu Ile Val Thr Gly Gly Trp Val Met Pro Asp Glu Ala Thr
245 250 255

Pro His Tyr Phe Ala Leu Ile Asp Gln Leu Ile Glu Gly His Gln Trp
260 265 270

Leu Glu Lys Asn Leu Gly Val Lys Pro Arg Ser Gly Trp Ala Ile Asp
275 280 285

Pro Phe Gly His Ser Pro Thr Met Ala Tyr Leu Leu Lys Arg Ala Gly
290 295 300

Phe Ser His Met Leu Ile Gln Arg Val His Tyr Ala Ile Lys Lys His
305 310 315 320

Phe Ser Leu His Lys Thr Leu Glu Phe Phe Trp Arg Gln Asn Trp Asp
325 330 335

Leu Gly Ser Ala Thr Asp Ile Leu Cys His Met Met Pro Phe Tyr Ser
340 345 350

Tyr Asp Ile Pro His Thr Cys Gly Pro Asp Pro Lys Ile Cys Cys Gln
355 360 365

Phe Asp Phe Lys Arg Leu Pro Gly Gly Arg Tyr Gly Cys Pro Trp Gly
370 375 380

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

Met Leu Leu Asp Gln Tyr Arg Lys Lys Ser Lys Leu Phe Arg Thr Lys
405 410 415

Val Leu Leu Ala Pro Leu Gly Asp Asp Phe Arg Phe Ser Glu Tyr Thr
420 425 430

Glu Trp Asp Leu Gln Cys Arg Asn Tyr Glu Gln Leu Phe Ser Tyr Met
435 440 445

Asn Ser Gln Pro His Leu Lys Val Lys Ile Gln Phe Gly Thr Leu Ser
450 455 460

Asp Tyr Phe Asp Ala Leu Glu Lys Ala Val Ala Ala Glu Lys Lys Ser
465 470 475 480

Ser Gln Ser Val Phe Pro Ala Leu Ser Gly Asp Phe Phe Thr Tyr Ala
485 490 495

Asp Arg Asp Asp His Tyr Trp Ser Gly Tyr Phe Thr Ser Arg Pro Phe
500 505 510

Tyr Lys Arg Met Asp Arg Ile Met Glu Ser Arg Ile Arg Ala Ala Glu
515 520 525

Ile Leu Tyr Gln Leu Ala Leu Lys Gln Ala Gln Lys Tyr Lys Ile Asn
530 535 540

Lys Phe Leu Ser Ser Pro His Tyr Thr Thr Leu Thr Glu Ala Arg Arg
545 550 555 560

Asn Leu Gly Leu Phe Gln His His Asp Ala Ile Thr Gly Thr Ala Lys
565 570 575

Asp Trp Val Val Val Asp Tyr Gly Thr Arg Leu Phe Gln Ser Leu Asn
580 585 590

Ser Leu Glu Lys Ile Ile Gly Asp Ser Ala Phe Leu Leu Ile Leu Lys
595 600 605

Asp Lys Lys Leu Tyr Gln Ser Asp Pro Ser Lys Ala Phe Leu Glu Met
610 615 620

Asp Thr Lys Gln Ser Ser Gln Asp Ser Leu Pro Gln Lys Ile Ile Ile
625 630 635 640

Gln Leu Ser Ala Gln Glu Pro Arg Tyr Leu Val Val Tyr Asn Pro Phe
645 650 655

Glu Gln Glu Arg His Ser Val Val Ser Ile Arg Val Asn Ser Ala Thr
660 665 670

Gly Lys Val Leu Ser Asp Ser Gly Lys Pro Val Glu Val Gln Val Ser
675 680 685

Ala Val Trp Asn Asp Met Arg Thr Ile Ser Gln Ala Ala Tyr Glu Val
690 695 700

Ser Phe Leu Ala His Ile Pro Pro Leu Gly Leu Lys Val Phe Lys Ile
705 710 715 720

Leu Glu Ser Gln Ser Ser Ser Ser His Leu Ala Asp Tyr Val Leu Tyr
725 730 735

Asn Asn Asp Gly Leu Ala Glu Asn Gly Ile Phe His Val Lys Asn Met
740 745 750

Val Asp Ala Gly Asp Ala Ile Thr Ile Glu Asn Pro Phe Leu Ala Ile
755 760 765

Trp Phe Asp Arg Ser Gly Leu Met Glu Lys Val Arg Arg Lys Glu Asp
770 775 780

Ser Arg Gln His Glu Leu Lys Val Gln Phe Leu Trp Tyr Gly Thr Thr
785 790 795 800

Asn Lys Arg Asp Lys Ser Gly Ala Tyr Leu Phe Leu Pro Asp Gly Gln
805 810 815

Gly Gln Pro Tyr Val Ser Leu Arg Pro Pro Phe Val Arg Val Thr Arg
820 825 830

Gly Arg Ile Tyr Ser Asp Val Thr Cys Phe Leu Glu His Val Thr His
835 840 845

Lys Val Arg Leu Tyr Asn Ile Gln Gly Ile Glu Gly Gln Ser Met Glu
850 855 860

Val Ser Asn Ile Val Asn Ile Arg Asn Val His Asn Arg Glu Ile Val
865 870 875 880

Met Arg Ile Ser Ser Lys Ile Asn Asn Gln Asn Arg Tyr Tyr Thr Asp
885 890 895

Leu Asn Gly Tyr Gln Ile Gln Pro Arg Arg Thr Met Ser Lys Leu Pro
900 905 910

Leu Gln Ala Asn Val Tyr Pro Met Cys Thr Met Ala Tyr Ile Gln Asp
915 920 925

Ala Glu His Arg Leu Thr Leu Leu Ser Ala Gln Ser Leu Gly Ala Ser
930 935 940

Ser Met Ala Ser Gly Gln Ile Glu Val Phe Met Asp Arg Arg Leu Met
945 950 955 960

Gln Asp Asp Asn Arg Gly Leu Gly Gln Gly Val His Asp Asn Lys Ile
965 970 975

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

Met Glu Glu Glu Lys Lys Ser Pro Val Ser Tyr Pro Ser Leu Leu Ser
995 1000 1005

His Met Thr Ser Ser Phe Leu Asn His Pro Phe Leu Pro Met Val

1010		1015		1020
Leu Ser Gly Gln Leu Pro Ser Pro Ala Phe Glu Leu Leu Ser Glu				
1025		1030		1035
Phe Pro Leu Leu Gln Ser Ser Leu Pro Cys Asp Ile His Leu Val				
1040		1045		1050
Asn Leu Arg Thr Ile Gln Ser Lys Met Gly Lys Gly Tyr Ser Asp				
1055		1060		1065
Glu Ala Ala Leu Ile Leu His Arg Lys Gly Phe Asp Cys Gln Phe				
1070		1075		1080
Ser Ser Arg Gly Ile Gly Leu Pro Cys Ser Thr Thr Gln Gly Lys				
1085		1090		1095
Met Ser Val Leu Lys Leu Phe Asn Lys Phe Ala Val Glu Ser Leu				
1100		1105		1110
Val Pro Ser Ser Leu Ser Leu Met His Ser Pro Pro Asp Ala Gln				
1115		1120		1125
Asn Met Ser Glu Val Ser Leu Ser Pro Met Glu Ile Ser Thr Phe				
1130		1135		1140
Arg Ile Arg Leu Arg Trp Thr				
1145		1150		
<210>	38			
<211>	1144			
<212>	PRT			
<213>	Homo sapiens			
<400>	38			
Met Lys Leu Ser Arg Gln Phe Thr Val Phe Gly Ser Ala Ile Phe Cys				
1	5	10	15	
Val Val Ile Phe Ser Leu Tyr Leu Met Leu Asp Arg Gly His Leu Asp				
	20	25	30	
Tyr Pro Arg Asn Pro Arg Arg Glu Gly Ser Phe Pro Gln Gly Gln Leu				
	35	40	45	
Ser Met Leu Gln Glu Lys Ile Asp His Leu Glu Arg Leu Leu Ala Glu				
	50	55	60	

Asn Asn Glu Ile Ile Ser Asn Ile Arg Asp Ser Val Ile Asn Leu Ser
65 70 75 80

Glu Ser Val Glu Asp Gly Pro Lys Ser Ser Gln Ser Asn Phe Ser Gln
85 90 95

Gly Ala Gly Ser His Leu Leu Pro Ser Gln Leu Ser Leu Ser Val Asp
100 105 110

Thr Ala Asp Cys Leu Phe Ala Ser Gln Ser Gly Ser His Asn Ser Asp
115 120 125

Val Gln Met Leu Asp Val Tyr Ser Leu Ile Ser Phe Asp Asn Pro Asp
130 135 140

Gly Gly Val Trp Lys Gln Gly Phe Asp Ile Thr Tyr Glu Ser Asn Glu
145 150 155 160

Trp Asp Thr Glu Pro Leu Gln Val Phe Val Val Pro His Ser His Asn
165 170 175

Asp Pro Gly Trp Leu Lys Thr Phe Asn Asp Tyr Phe Arg Asp Lys Thr
180 185 190

Gln Tyr Ile Phe Asn Asn Met Val Leu Lys Leu Lys Glu Asp Ser Arg
195 200 205

Arg Lys Phe Ile Trp Ser Glu Ile Ser Tyr Leu Ser Lys Trp Trp Asp
210 215 220

Ile Ile Asp Ile Gln Lys Lys Asp Ala Val Lys Ser Leu Ile Glu Asn
225 230 235 240

Gly Gln Leu Glu Ile Val Thr Gly Gly Trp Val Met Pro Asp Glu Ala
245 250 255

Thr Pro His Tyr Phe Ala Leu Ile Asp Gln Leu Ile Glu Gly His Gln
260 265 270

Trp Leu Glu Asn Asn Ile Gly Val Lys Pro Arg Ser Gly Trp Ala Ile
275 280 285

Asp Pro Phe Gly His Ser Pro Thr Met Ala Tyr Leu Leu Asn Arg Ala
290 295 300

Gly Leu Ser His Met Leu Ile Gln Arg Val His Tyr Ala Val Lys Lys
305 310 315 320

His Phe Ala Leu His Lys Thr Leu Glu Phe Phe Trp Arg Gln Asn Trp
325 330 335

Asp Leu Gly Ser Val Thr Asp Ile Leu Cys His Met Met Pro Phe Tyr
340 345 350

Ser Tyr Asp Ile Pro His Thr Cys Gly Pro Asp Pro Lys Ile Cys Cys
355 360 365

Gln Phe Asp Phe Lys Arg Leu Pro Gly Gly Arg Phe Gly Cys Pro Trp
370 375 380

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

Arg Met Leu Leu Asp Gln Tyr Arg Lys Lys Ser Lys Leu Phe Arg Thr
405 410 415

Lys Val Leu Leu Ala Pro Leu Gly Asp Asp Phe Arg Tyr Cys Glu Tyr
420 425 430

Thr Glu Trp Asp Leu Gln Phe Lys Asn Tyr Gln Gln Leu Phe Asp Tyr
435 440 445

Met Asn Ser Gln Ser Lys Phe Lys Val Lys Ile Gln Phe Gly Thr Leu
450 455 460

Ser Asp Phe Phe Asp Ala Leu Asp Lys Ala Asp Glu Thr Gln Arg Asp
465 470 475 480

Lys Gly Gln Ser Met Phe Pro Val Leu Ser Gly Asp Phe Phe Thr Tyr
485 490 495

Ala Asp Arg Asp Asp His Tyr Trp Ser Gly Tyr Phe Thr Ser Arg Pro
500 505 510

Phe Tyr Lys Arg Met Asp Arg Ile Met Glu Ser His Leu Arg Ala Ala
515 520 525

Glu Ile Leu Tyr Tyr Phe Ala Leu Arg Gln Ala His Lys Tyr Lys Ile
530 535 540

Asn Lys Phe Leu Ser Ser Ser Leu Tyr Thr Ala Leu Thr Glu Ala Arg

545					550						555				560
Arg	Asn	Leu	Gly	Leu	Phe	Gln	His	His	Asp	Ala	Ile	Thr	Gly	Thr	Ala
				565					570					575	
Lys	Asp	Trp	Val	Val	Val	Asp	Tyr	Gly	Thr	Arg	Leu	Phe	His	Ser	Leu
			580					585					590		
Met	Val	Leu	Glu	Lys	Ile	Ile	Gly	Asn	Ser	Ala	Phe	Leu	Leu	Ile	Leu
		595					600					605			
Lys	Asp	Lys	Leu	Thr	Tyr	Asp	Ser	Tyr	Ser	Pro	Asp	Thr	Phe	Leu	Glu
	610					615					620				
Met	Asp	Leu	Lys	Gln	Lys	Ser	Gln	Asp	Ser	Leu	Pro	Gln	Lys	Asn	Ile
625					630					635					640
Ile	Arg	Leu	Ser	Ala	Glu	Pro	Arg	Tyr	Leu	Val	Val	Tyr	Asn	Pro	Leu
				645					650					655	
Glu	Gln	Asp	Arg	Ile	Ser	Leu	Val	Ser	Val	Tyr	Val	Ser	Ser	Pro	Thr
			660					665					670		
Val	Gln	Val	Phe	Ser	Ala	Ser	Gly	Lys	Pro	Val	Glu	Val	Gln	Val	Ser
		675					680					685			
Ala	Val	Trp	Asp	Thr	Ala	Asn	Thr	Ile	Ser	Glu	Thr	Ala	Tyr	Glu	Ile
	690					695					700				
Ser	Phe	Arg	Ala	His	Ile	Pro	Pro	Leu	Gly	Leu	Lys	Val	Tyr	Lys	Ile
705					710					715					720
Leu	Glu	Ser	Ala	Ser	Ser	Asn	Ser	His	Leu	Ala	Asp	Tyr	Val	Leu	Tyr
				725					730					735	
Lys	Asn	Lys	Val	Glu	Asp	Ser	Gly	Ile	Phe	Thr	Ile	Lys	Asn	Met	Ile
			740					745					750		
Asn	Thr	Glu	Glu	Gly	Ile	Thr	Leu	Glu	Asn	Ser	Phe	Val	Leu	Leu	Arg
		755					760					765			
Phe	Asp	Gln	Thr	Gly	Leu	Met	Lys	Gln	Met	Met	Thr	Lys	Glu	Asp	Gly
	770					775					780				
Lys	His	His	Glu	Val	Asn	Val	Gln	Phe	Ser	Trp	Tyr	Gly	Thr	Thr	Ile
785					790					795					800

Lys Arg Asp Lys Ser Gly Ala Tyr Leu Phe Leu Pro Asp Gly Asn Ala
805 810 815

Lys Pro Tyr Val Tyr Thr Thr Pro Pro Phe Val Arg Val Thr His Gly
820 825 830

Arg Ile Tyr Ser Glu Val Thr Cys Phe Phe Asp His Val Thr His Arg
835 840 845

Val Arg Leu Tyr His Ile Gln Gly Ile Glu Gly Gln Ser Val Glu Val
850 855 860

Ser Asn Ile Val Asp Ile Arg Lys Val Tyr Asn Arg Glu Ile Ala Met
865 870 875 880

Lys Ile Ser Ser Asp Ile Lys Ser Gln Asn Arg Phe Tyr Thr Asp Leu
885 890 895

Asn Gly Tyr Gln Ile Gln Pro Arg Met Thr Leu Ser Lys Leu Pro Leu
900 905 910

Gln Ala Asn Val Tyr Pro Met Thr Thr Met Ala Tyr Ile Gln Asp Ala
915 920 925

Lys His Arg Leu Thr Leu Leu Ser Ala Gln Ser Leu Gly Val Ser Ser
930 935 940

Leu Asn Ser Gly Gln Ile Glu Val Ile Met Asp Arg Arg Leu Met Gln
945 950 955 960

Asp Asp Asn Arg Gly Leu Glu Gln Gly Ile Gln Asp Asn Lys Ile Thr
965 970 975

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

Glu Glu Glu Lys Lys Ser Val Ser Tyr Pro Ser Leu Leu Ser His Ile
995 1000 1005

Thr Ser Ser Leu Met Asn His Pro Val Ile Pro Met Ala Asn Lys
1010 1015 1020

Phe Ser Ser Pro Thr Leu Glu Leu Gln Gly Glu Phe Ser Pro Leu
1025 1030 1035

Gln Ser Ser Leu Pro Cys Asp Ile His Leu Val Asn Leu Arg Thr
1040 1045 1050

Ile Gln Ser Lys Val Gly Asn Gly His Ser Asn Glu Ala Ala Leu
1055 1060 1065

Ile Leu His Arg Lys Gly Phe Asp Cys Arg Phe Ser Ser Lys Gly
1070 1075 1080

Thr Gly Leu Phe Cys Ser Thr Thr Gln Gly Lys Ile Leu Val Gln
1085 1090 1095

Lys Leu Leu Asn Lys Phe Ile Val Glu Ser Leu Thr Pro Ser Ser
1100 1105 1110

Leu Ser Leu Met His Ser Pro Pro Gly Thr Gln Asn Ile Ser Glu
1115 1120 1125

Ile Asn Leu Ser Pro Met Glu Ile Ser Thr Phe Arg Ile Gln Leu
1130 1135 1140

Arg

<210> 39
<211> 575
<212> PRT
<213> Mus musculus

<400> 39

Met Arg Ala Trp Thr Gly Ser Trp Arg Trp Ile Met Leu Ile Leu Phe
1 5 10 15

Ala Trp Gly Thr Leu Leu Phe Tyr Ile Gly Gly His Leu Val Arg Asp
20 25 30

Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
35 40 45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
50 55 60

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

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln

85

90

95

Ile Glu Asn Tyr Lys Lys Gln Ala Arg Asn Gly Leu Gly Lys Asp His
 100 105 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
 115 120 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys His Leu Glu Gly Asn Glu
 130 135 140

Leu Gln Arg His Ala Asp Glu Ile Leu Leu Asp Leu Gly His His Glu
 145 150 155 160

Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
 165 170 175

Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
 180 185 190

Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Arg
 195 200 205

Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu
 210 215 220

His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr
 225 230 235 240

Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu
 245 250 255

Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Leu
 260 265 270

Ser Thr Gly His Trp Ser Gly Glu Val Asn Asp Lys Asn Ile Gln Val
 275 280 285

Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu
 290 295 300

Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Leu Arg Val His
 305 310 315 320

Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile
 325 330 335

Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
340 345 350

Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
355 360 365

Lys Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val
370 375 380

His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp
385 390 395 400

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

Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
420 425 430

Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
435 440 445

Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
450 455 460

Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
465 470 475 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro
500 505 510

His Lys Pro Arg Thr Glu Glu Glu Ile Pro Met Glu Pro Gly Asp Ile
515 520 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Ile Asn
530 535 540

Arg Lys Leu Gly Lys Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
545 550 555 560

Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys
565 570 575

<210> 40
<211> 575
<212> PRT
<213> Homo sapiens

<400> 40

Met Arg Pro Trp Thr Gly Ser Trp Arg Trp Ile Met Leu Ile Leu Phe
1 5 10 15

Ala Trp Gly Thr Leu Leu Phe Tyr Ile Gly Gly His Leu Val Arg Asp
20 25 30

Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
35 40 45

Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
50 55 60

Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Pro Ala Ile
65 70 75 80

Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln
85 90 95

Ile Glu Asn Tyr Lys Lys Gln Thr Arg Asn Gly Leu Gly Lys Asp His
100 105 110

Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe
115 120 125

Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Asn Leu Glu Gly Asn Glu
130 135 140

Leu Gln Arg His Ala Asp Glu Phe Leu Leu Asp Leu Gly His His Glu
145 150 155 160

Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala
165 170 175

Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln
180 185 190

Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Lys
195 200 205

Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu

210		215		220
His 225	His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr 240			
		230	235	
Leu 245	Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu 255		250	
Thr 260	Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Ile 270			
		265		
Ser 275	Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val 285			
		280		
Val 290	Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu 300			
		295	300	
Pro 305	Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His 320		315	
		310		
Gly 325	Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile 335			
		325	330	
Arg 340	Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys 350			
		340		
Leu 355	Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp 365			
		355	360	
Lys 370	Val Gly Thr Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Met Val 380			
		375	380	
His 385	Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp 400			
		390	395	
Lys 405	Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu 415			
		405	410	
Ala 420	Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile 430			
		420		
Ser 435	Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg 445			
		435	440	
Gly 450	Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val 460			
		455	460	

Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
465 470 475 480

Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
485 490 495

Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Ile Tyr Ala
500 505 510

His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met Glu Pro Gly Asp Ile
515 520 525

Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn
530 535 540

Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
545 550 555 560

Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys
565 570 575

<210> 41
<211> 438
<212> PRT
<213> Mus musculus

<400> 41

Met Lys Pro His Leu Lys Gln Trp Arg Gln Arg Met Leu Phe Gly Ile
1 5 10 15

Phe Val Trp Gly Leu Leu Phe Leu Ala Ile Phe Ile Tyr Phe Thr Asn
20 25 30

Ser Asn Pro Ala Ala Pro Met Pro Ser Ser Phe Ser Phe Leu Glu Arg
35 40 45

Arg Gly Leu Leu Pro Leu Gln Gly Lys Gln Arg Val Ile Met Gly Ala
50 55 60

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

Leu Asp Ser His Pro Glu Asn Pro Phe His Pro Trp Pro Gly Asp Pro
85 90 95

Gln Lys Trp Asp Gln Ala Pro Asn Gly Phe Asp Asn Gly Asp Glu Phe
100 105 110

Phe Thr Ser Gln Val Gly Arg Lys Ser Gln Ser Ala Phe Tyr Pro Glu
115 120 125

Glu Asp Ser Tyr Phe Phe Val Ala Asp Gln Pro Glu Leu Tyr His His
130 135 140

Arg Gln Gly Ala Leu Glu Leu Pro Ser Pro Gly Glu Thr Ser Trp Arg
145 150 155 160

Ser Gly Pro Val Gln Pro Lys Gln Lys Leu Leu His Pro Arg Arg Gly
165 170 175

Ser Leu Pro Glu Glu Ala Tyr Asp Ser Asp Met Leu Ser Ala Ser Met
180 185 190

Ser Arg Ala Phe Leu Tyr Arg Leu Trp Lys Gly Ala Val Ser Ser Lys
195 200 205

Met Leu Asn Pro Arg Leu Gln Lys Ala Met Arg Tyr Tyr Met Ser Phe
210 215 220

Asn Lys His Gly Val Arg Phe Arg Arg Arg Gly Arg Arg Glu Ala Thr
225 230 235 240

Arg Thr Gly Pro Glu Leu Leu Cys Glu Met Arg Arg Arg Val Arg Val
245 250 255

Arg Thr Leu Asp Gly Arg Glu Ala Pro Phe Ser Gly Leu Gly Trp Arg
260 265 270

Pro Leu Val Pro Gly Val Pro Leu Ser Gln Leu His Pro Arg Gly Leu
275 280 285

Ser Ser Cys Ala Val Val Met Ser Ala Gly Ala Ile Leu Asn Ser Ser
290 295 300

Leu Gly Glu Glu Ile Asp Ser His Asp Ala Val Leu Arg Phe Asn Ser
305 310 315 320

Ala Pro Thr Arg Gly Tyr Glu Lys Asp Val Gly Asn Lys Thr Thr Val
325 330 335

Arg Ile Ile Asn Ser Gln Ile Leu Ala Asn Pro Ser His His Phe Ile

340

345

350

Asp Ser Ala Leu Tyr Lys Asp Val Ile Leu Val Ala Trp Asp Pro Ala
 355 360 365

Pro Tyr Ser Ala Asn Leu Asn Leu Trp Tyr Lys Lys Pro Asp Tyr Asn
 370 375 380

Leu Phe Thr Pro Tyr Ile Gln His Arg Arg Lys Tyr Pro Thr Gln Pro
 385 390 395 400

Phe Tyr Ile Leu His Pro Lys Phe Ile Trp Gln Leu Trp Asp Ile Ile
 405 410 415

Gln Glu Asn Thr Arg Glu Lys Ile Gln Pro Asn Pro Pro Ser Ser Gly
 420 425 430

Phe Ile Gly Thr Cys Val
 435

<210> 42
 <211> 406
 <212> PRT
 <213> Homo sapiens

<400> 42

Met Ile His Thr Asn Leu Lys Lys Lys Phe Ser Cys Cys Val Leu Val
 1 5 10 15

Phe Leu Leu Phe Ala Val Ile Cys Val Trp Lys Glu Lys Lys Lys Gly
 20 25 30

Ser Tyr Tyr Asp Ser Phe Lys Leu Gln Thr Lys Glu Phe Gln Val Leu
 35 40 45

Lys Ser Leu Gly Lys Leu Ala Met Gly Ser Asp Ser Gln Ser Val Ser
 50 55 60

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

Leu Arg Gly Leu Ala Lys Ala Lys Pro Glu Ala Ser Phe Gln Val Trp
 85 90 95

Asn Lys Asp Ser Ser Ser Lys Asn Leu Ile Pro Arg Leu Gln Lys Ile
 100 105 110

Trp Lys Asn Tyr Leu Ser Met Asn Lys Tyr Lys Val Ser Tyr Lys Gly
115 120 125

Pro Gly Pro Gly Ile Lys Phe Ser Ala Glu Ala Leu Arg Cys His Leu
130 135 140

Arg Asp His Val Asn Val Ser Met Val Glu Val Thr Asp Phe Pro Phe
145 150 155 160

Asn Thr Ser Glu Trp Glu Gly Tyr Leu Pro Lys Glu Ser Ile Arg Thr
165 170 175

Lys Ala Gly Pro Trp Gly Arg Cys Ala Val Val Ser Ser Ala Gly Ser
180 185 190

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

Leu Arg Phe Asn Gly Ala Pro Thr Ala Asn Phe Gln Gln Asp Val Gly
210 215 220

Thr Lys Thr Thr Ile Arg Leu Met Asn Ser Gln Leu Val Thr Thr Glu
225 230 235 240

Lys Arg Phe Leu Lys Asp Ser Leu Tyr Asn Glu Gly Ile Leu Ile Val
245 250 255

Trp Asp Pro Ser Val Tyr His Ser Asp Ile Pro Lys Trp Tyr Gln Asn
260 265 270

Pro Asp Tyr Asn Phe Phe Asn Asn Tyr Lys Thr Tyr Arg Lys Leu His
275 280 285

Pro Asn Gln Pro Phe Tyr Ile Leu Lys Pro Gln Met Pro Trp Glu Leu
290 295 300

Trp Asp Ile Leu Gln Glu Ile Ser Pro Glu Glu Ile Gln Pro Asn Pro
305 310 315 320

Pro Ser Ser Gly Met Leu Gly Ile Ile Ile Met Met Thr Leu Cys Asp
325 330 335

Gln Val Asp Ile Tyr Glu Phe Leu Pro Ser Lys Arg Lys Thr Asp Val
340 345 350

Cys Tyr Tyr Tyr Gln Lys Phe Phe Asp Ser Ala Cys Thr Met Gly Ala
355 360 365

Tyr His Pro Leu Leu Tyr Glu Lys Asn Leu Val Lys His Leu Asn Gln
370 375 380

Gly Thr Asp Glu Asp Ile Tyr Leu Leu Gly Lys Ala Thr Leu Pro Gly
385 390 395 400

Phe Arg Thr Ile His Cys
405

<210> 43
<211> 175
<212> PRT
<213> Homo sapiens

<400> 43

Met Asn Ser Gln Leu Val Thr Thr Glu Lys Arg Phe Leu Lys Asp Ser
1 5 10 15

Leu Tyr Asn Glu Gly Ile Leu Ile Val Trp Asp Pro Ser Val Tyr His
20 25 30

Ser Asp Ile Pro Lys Trp Tyr Gln Asn Pro Asp Tyr Asn Phe Phe Asn
35 40 45

Asn Tyr Lys Thr Tyr Arg Lys Leu His Pro Asn Gln Pro Phe Tyr Ile
50 55 60

Leu Lys Pro Gln Met Pro Trp Glu Leu Trp Asp Ile Leu Gln Glu Ile
65 70 75 80

Ser Pro Glu Glu Ile Gln Pro Asn Pro Pro Ser Ser Gly Met Leu Gly
85 90 95

Ile Ile Ile Met Met Thr Leu Cys Asp Gln Val Asp Ile Tyr Glu Phe
100 105 110

Leu Pro Ser Lys Arg Lys Thr Asp Val Cys Tyr Tyr Tyr Gln Lys Phe
115 120 125

Phe Asp Ser Ala Cys Thr Met Gly Ala Tyr His Pro Leu Leu Tyr Glu
130 135 140

Lys Asn Leu Val Lys His Leu Asn Gln Gly Thr Asp Glu Asp Ile Tyr
145 150 155 160

Leu Leu Gly Lys Ala Thr Leu Pro Gly Phe Arg Thr Ile His Cys
165 170 175

<210> 44
<211> 337
<212> PRT
<213> Mus musculus

<400> 44

Met Arg Arg Lys Thr Leu Lys Tyr Leu Thr Phe Phe Leu Leu Phe Ile
1 5 10 15

Phe Leu Thr Ser Phe Val Leu Asn Tyr Ser Asn Thr Gly Val Pro Ser
20 25 30

Ala Trp Phe Pro Lys Gln Met Leu Leu Glu Leu Ser Glu Asn Phe Arg
35 40 45

Arg Phe Ile Lys Ser Gln Pro Cys Thr Cys Arg His Cys Ile Ser Gln
50 55 60

Asp Lys Val Ser Tyr Trp Phe Asp Gln Arg Phe Asn Lys Thr Met Gln
65 70 75 80

Pro Leu Leu Thr Val His Asn Ala Leu Met Glu Glu Asp Thr Tyr Arg
85 90 95

Trp Trp Leu Arg Leu Gln Arg Glu Arg Lys Pro Asn Asn Leu Ser Asp
100 105 110

Thr Val Lys Glu Leu Phe Arg Leu Val Pro Gly Asn Val Asp Pro Met
115 120 125

Leu Asn Lys Arg Leu Val Gly Cys Arg Arg Cys Ala Val Val Gly Asn
130 135 140

Ser Gly Asn Leu Lys Asp Ser Ser Tyr Gly Pro Glu Ile Asp Ser His
145 150 155 160

Asp Phe Val Leu Arg Met Asn Lys Ala Pro Thr Val Gly Phe Glu Ala
165 170 175

Asp Val Gly Ser Arg Thr Thr His His Leu Val Tyr Pro Glu Ser Phe
180 185 190

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

Thr Asp Leu Gln Trp Val Ile Ser Ala Thr Thr Thr Gly Thr Ile Thr
210 215 220

His Thr Tyr Val Pro Val Pro Pro Lys Ile Lys Val Lys Gln Glu Lys
225 230 235 240

Ile Leu Ile Tyr His Pro Ala Phe Ile Lys Tyr Val Phe Asp Asn Trp
245 250 255

Leu Gln Gly His Gly Arg Tyr Pro Ser Thr Gly Ile Leu Ser Ile Ile
260 265 270

Phe Ser Ile His Ile Cys Asp Glu Val Asp Leu Tyr Gly Phe Gly Ala
275 280 285

Asp Ser Lys Gly Asn Trp His His Tyr Trp Glu Asn Asn Pro Ser Ala
290 295 300

Gly Ala Phe Arg Lys Thr Gly Val His Asp Gly Asp Phe Glu Tyr Asn
305 310 315 320

Ile Thr Thr Thr Leu Ala Ala Ile Asn Lys Ile Arg Ile Phe Lys Gly
325 330 335

Arg

<210> 45
<211> 340
<212> PRT
<213> Homo sapiens

<400> 45

Met Val Thr Leu Arg Lys Arg Thr Leu Lys Val Leu Thr Phe Leu Val
1 5 10 15

Leu Phe Ile Phe Leu Thr Ser Phe Phe Leu Asn Tyr Ser His Thr Met
20 25 30

Val Ala Thr Thr Trp Phe Pro Lys Gln Met Val Leu Glu Leu Ser Glu
35 40 45

Asn Leu Lys Arg Leu Ile Lys His Arg Pro Cys Thr Cys Thr His Cys
50 55 60

Ile Gly Gln Arg Lys Leu Ser Ala Trp Phe Asp Glu Arg Phe Asn Gln
65 70 75 80

Thr Met Gln Pro Leu Leu Thr Ala Gln Asn Ala Leu Leu Glu Asp Asp
85 90 95

Thr Tyr Arg Trp Trp Leu Arg Leu Gln Arg Glu Lys Lys Pro Asn Asn
100 105 110

Leu Asn Asp Thr Ile Lys Glu Leu Phe Arg Val Val Pro Gly Asn Val
115 120 125

Asp Pro Met Leu Glu Lys Arg Ser Val Gly Cys Arg Arg Cys Ala Val
130 135 140

Val Gly Asn Ser Gly Asn Leu Arg Glu Ser Ser Tyr Gly Pro Glu Ile
145 150 155 160

Asp Ser His Asp Phe Val Leu Arg Met Asn Lys Ala Pro Thr Ala Gly
165 170 175

Phe Glu Ala Asp Val Gly Thr Lys Thr Thr His His Leu Val Tyr Pro
180 185 190

Glu Ser Phe Arg Glu Leu Gly Asp Asn Val Ser Met Ile Leu Val Pro
195 200 205

Phe Lys Thr Ile Asp Leu Glu Trp Val Val Ser Ala Ile Thr Thr Gly
210 215 220

Thr Ile Ser His Thr Tyr Ile Pro Val Pro Ala Lys Ile Arg Val Lys
225 230 235 240

Gln Asp Lys Ile Leu Ile Tyr His Pro Ala Phe Ile Lys Tyr Val Phe
245 250 255

Asp Asn Trp Leu Gln Gly His Gly Arg Tyr Pro Ser Thr Gly Ile Leu
260 265 270

Ser Val Ile Phe Ser Met His Val Cys Asp Glu Val Asp Leu Tyr Gly
275 280 285

Phe Gly Ala Asp Ser Lys Gly Asn Trp His His Tyr Trp Glu Asn Asn
290 295 300

Pro Ser Ala Gly Ala Phe Arg Lys Thr Gly Val His Asp Ala Asp Phe
305 310 315 320

Glu Ser Asn Val Thr Ala Thr Leu Ala Ser Ile Asn Lys Ile Arg Ile
325 330 335

Phe Lys Gly Arg
340

<210> 46
<211> 350
<212> PRT
<213> Homo sapiens

<400> 46

Met Lys Cys Ser Leu Arg Val Trp Phe Leu Ser Val Ala Phe Leu Leu
1 5 10 15

Val Phe Ile Met Ser Leu Leu Phe Thr Tyr Ser His His Ser Met Ala
20 25 30

Thr Leu Pro Tyr Leu Asp Ser Gly Ala Leu Asp Gly Thr His Arg Val
35 40 45

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

Leu Ser Gly Lys Ser Cys Ala Cys Arg Arg Cys Met Gly Asp Ala Gly
65 70 75 80

Ala Ser Asp Trp Phe Asp Ser His Phe Asp Gly Asn Ile Ser Pro Val
85 90 95

Trp Thr Arg Glu Asn Met Asp Leu Pro Pro Asp Val Gln Arg Trp Trp
100 105 110

Met Met Leu Gln Pro Gln Phe Lys Ser His Asn Thr Asn Glu Val Leu
115 120 125

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

Asp Pro His Gln Cys Arg Arg Cys Ala Val Val Gly Asn Ser Gly Asn
145 150 155 160

Leu Arg Gly Ser Gly Tyr Gly Gln Asp Val Asp Gly His Asn Phe Ile

165

170

175

Met Arg Met Asn Gln Ala Pro Thr Val Gly Phe Glu Gln Asp Val Gly
180 185 190

Ser Arg Thr Thr His His Phe Met Tyr Pro Glu Ser Ala Lys Asn Leu
195 200 205

Pro Ala Asn Val Ser Phe Val Leu Val Pro Phe Lys Val Leu Asp Leu
210 215 220

Leu Trp Ile Ala Ser Ala Leu Ser Thr Gly Gln Ile Arg Phe Thr Tyr
225 230 235 240

Ala Pro Val Lys Ser Phe Leu Arg Val Asp Lys Glu Lys Val Gln Ile
245 250 255

Tyr Asn Pro Ala Phe Phe Lys Tyr Ile His Asp Arg Trp Thr Glu His
260 265 270

His Gly Arg Tyr Pro Ser Thr Gly Met Leu Val Leu Phe Phe Ala Leu
275 280 285

His Val Cys Asp Glu Val Asn Val Tyr Gly Phe Gly Ala Asp Ser Arg
290 295 300

Gly Asn Trp His His Tyr Trp Glu Asn Asn Arg Tyr Ala Gly Glu Phe
305 310 315 320

Arg Lys Thr Gly Val His Asp Ala Asp Phe Glu Ala His Ile Ile Asp
325 330 335

Met Leu Ala Lys Ala Ser Lys Ile Glu Val Tyr Arg Gly Asn
340 345 350

<210> 47

<211> 444

<212> PRT

<213> Homo sapiens

<400> 47

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Ser Lys Tyr Ser His Ser Ser Ser Pro
35 40 45

Gln Glu Lys Pro Val Ala Asp Ser Val Val Leu Ser Phe Asp Ser Ala
50 55 60

Gly Gln Thr Leu Gly Ser Glu Tyr Asp Arg Leu Gly Phe Leu Leu Asn
65 70 75 80

Leu Asp Ser Lys Leu Ser Pro Arg Thr Leu Cys Thr Val Val Phe Gly
85 90 95

Leu Asp Cys Ile Leu Glu Ser Pro Gly Glu Pro Lys Lys Leu Leu Met
100 105 110

Pro Ala Ser His Pro Leu Glu Ile Leu Lys Ser Leu Ser Glu Asp Ala
115 120 125

Ala Phe Ala Leu Gly Phe Leu Lys Leu Pro Arg Pro Ala Glu Leu Ala
130 135 140

Thr Lys Tyr Ala Asn Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala
145 150 155 160

Ser Ala Leu Met Thr Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro
165 170 175

Met Phe Leu Asp Asp Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe
180 185 190

Val Pro Pro Phe Gly Ile Lys Gly Gln Asp Asn Leu Ile Lys Ala Ile
195 200 205

Leu Ser Val Thr Lys Glu Tyr Arg Leu Thr Pro Ala Leu Asp Ser Leu
210 215 220

Arg Cys Arg Arg Cys Ile Ile Val Gly Asn Gly Gly Val Leu Ala Asn
225 230 235 240

Lys Ser Leu Gly Ser Arg Ile Asp Asp Tyr Asp Ile Val Val Arg Leu
245 250 255

Asn Ser Ala Pro Val Lys Gly Phe Glu Lys Asp Val Gly Ser Lys Thr
260 265 270

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

Tyr Glu Arg Asp Ser Leu Phe Val Leu Ala Gly Phe Lys Trp Gln Asp
290 295 300

Phe Lys Trp Leu Lys Tyr Ile Val Tyr Lys Glu Arg Val Ser Ala Ser
305 310 315 320

Asp Gly Phe Trp Lys Ser Val Ala Thr Arg Val Pro Lys Glu Pro Pro
325 330 335

Glu Ile Arg Ile Leu Asn Pro Tyr Phe Ile Gln Glu Ala Ala Phe Thr
340 345 350

Leu Ile Gly Leu Pro Phe Asn Asn Gly Leu Met Gly Arg Gly Asn Ile
355 360 365

Pro Thr Leu Gly Ser Val Ala Val Thr Met Ala Leu His Gly Cys Asp
370 375 380

Glu Val Ala Val Ala Gly Phe Gly Tyr Asp Met Ser Thr Pro Asn Ala
385 390 395 400

Pro Leu His Tyr Tyr Glu Thr Val Arg Met Ala Ala Ile Lys Glu Ser
405 410 415

Trp Thr His Asn Ile Gln Arg Glu Lys Glu Phe Leu Arg Lys Leu Val
420 425 430

Lys Ala Arg Val Ile Thr Asp Leu Ser Ser Gly Ile
435 440

<210> 48
<211> 390
<212> PRT
<213> Homo sapiens

<400> 48

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Ser Lys Tyr Ser His Ser Ser Ser Pro
35 40 45

Gln Glu Lys Pro Val Ala Asp Ser Val Val Leu Ser Phe Asp Ser Ala
50 55 60

Gly Gln Thr Leu Gly Ser Glu Tyr Asp Arg Leu Gly Phe Leu Leu Asn
65 70 75 80

Leu Asp Ser Lys Leu Pro Ala Glu Leu Ala Thr Lys Tyr Ala Asn Phe
85 90 95

Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala Ser Ala Leu Met Thr Ala
100 105 110

Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro Met Phe Leu Asp Asp Ser
115 120 125

Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe Val Pro Pro Phe Gly Ile
130 135 140

Lys Gly Gln Asp Asn Leu Ile Lys Ala Ile Leu Ser Val Thr Lys Glu
145 150 155 160

Tyr Arg Leu Thr Pro Ala Leu Asp Ser Leu Arg Cys Arg Arg Cys Ile
165 170 175

Ile Val Gly Asn Gly Gly Val Leu Ala Asn Lys Ser Leu Gly Ser Arg
180 185 190

Ile Asp Asp Tyr Asp Ile Val Val Arg Leu Asn Ser Ala Pro Val Lys
195 200 205

Gly Phe Glu Lys Asp Val Gly Ser Lys Thr Thr Leu Arg Ile Thr Tyr
210 215 220

Pro Glu Gly Ala Met Gln Arg Pro Glu Gln Tyr Glu Arg Asp Ser Leu
225 230 235 240

Phe Val Leu Ala Gly Phe Lys Trp Gln Asp Phe Lys Trp Leu Lys Tyr
245 250 255

Ile Val Tyr Lys Glu Arg Val Ser Ala Ser Asp Gly Phe Trp Lys Ser
260 265 270

Val Ala Thr Arg Val Pro Lys Glu Pro Pro Glu Ile Arg Ile Leu Asn
275 280 285

Pro Tyr Phe Ile Gln Glu Ala Ala Phe Thr Leu Ile Gly Leu Pro Phe
290 295 300

Asn Asn Gly Leu Met Gly Arg Gly Asn Ile Pro Thr Leu Gly Ser Val
305 310 315 320

Ala Val Thr Met Ala Leu His Gly Cys Asp Glu Val Ala Val Ala Gly
325 330 335

Phe Gly Tyr Asp Met Ser Thr Pro Asn Ala Pro Leu His Tyr Tyr Glu
340 345 350

Thr Val Arg Met Ala Ala Ile Lys Glu Ser Trp Thr His Asn Ile Gln
355 360 365

Arg Glu Lys Glu Phe Leu Arg Lys Leu Val Lys Ala Arg Val Ile Thr
370 375 380

Asp Leu Ser Ser Gly Ile
385 390

<210> 49
<211> 170
<212> PRT
<213> Homo sapiens

<400> 49

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Ser Lys Tyr Ser His Ser Ser Ser Pro
35 40 45

Gln Glu Lys Pro Val Ala Asp Ser Val Val Leu Ser Phe Asp Ser Ala
50 55 60

Gly Gln Thr Leu Gly Ser Glu Tyr Asp Arg Leu Gly Phe Leu Leu Asn
65 70 75 80

Leu Asp Ser Lys Leu Pro Ala Glu Leu Ala Thr Lys Tyr Ala Asn Phe
85 90 95

Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala Ser Ala Leu Met Thr Ala

100

105

110

Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro Met Phe Leu Asp Asp Ser
 115 120 125

Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe Val Pro Pro Phe Gly Ile
 130 135 140

Lys Gly Gln Val Leu Asp Ala Gln Tyr Pro Ala Arg Glu Arg Val Ser
 145 150 155 160

Ala Glu Ala Gly Glu Ser Ser Arg His His
 165 170

<210> 50
 <211> 429
 <212> PRT
 <213> Homo sapiens

<400> 50

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
 1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
 20 25 30

Leu Gln Trp Glu Glu Asp Ser Asn Ser Val Val Leu Ser Phe Asp Ser
 35 40 45

Ala Gly Gln Thr Leu Gly Ser Glu Tyr Asp Arg Leu Gly Phe Leu Leu
 50 55 60

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

Gly Leu Asp Cys Ile Leu Glu Ser Pro Gly Glu Pro Lys Lys Leu Leu
 85 90 95

Met Pro Ala Ser His Pro Leu Glu Ile Leu Lys Ser Leu Ser Glu Asp
 100 105 110

Ala Ala Phe Ala Leu Gly Phe Leu Lys Leu Pro Arg Pro Ala Glu Leu
 115 120 125

Ala Thr Lys Tyr Ala Asn Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr
 130 135 140

Ala Ser Ala Leu Met Thr Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala
145 150 155 160

Pro Met Phe Leu Asp Asp Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu
165 170 175

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

Ile Leu Ser Val Thr Lys Glu Tyr Arg Leu Thr Pro Ala Leu Asp Ser
195 200 205

Leu Arg Cys Arg Arg Cys Ile Ile Val Gly Asn Gly Gly Val Leu Ala
210 215 220

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

Leu Asn Ser Ala Pro Val Lys Gly Phe Glu Lys Asp Val Gly Ser Lys
245 250 255

Thr Thr Leu Arg Ile Thr Tyr Pro Glu Gly Ala Met Gln Arg Pro Glu
260 265 270

Gln Tyr Glu Arg Asp Ser Leu Phe Val Leu Ala Gly Phe Lys Trp Gln
275 280 285

Asp Phe Lys Trp Leu Lys Tyr Ile Val Tyr Lys Glu Arg Val Ser Ala
290 295 300

Ser Asp Gly Phe Trp Lys Ser Val Ala Thr Arg Val Pro Lys Glu Pro
305 310 315 320

Pro Glu Ile Arg Ile Leu Asn Pro Tyr Phe Ile Gln Glu Ala Ala Phe
325 330 335

Thr Leu Ile Gly Leu Pro Phe Asn Asn Gly Leu Met Gly Arg Gly Asn
340 345 350

Ile Pro Thr Leu Gly Ser Val Ala Val Thr Met Ala Leu His Gly Cys
355 360 365

Asp Glu Val Ala Val Ala Gly Phe Gly Tyr Asp Met Ser Thr Pro Asn
370 375 380

Ala Pro Leu His Tyr Tyr Glu Thr Val Arg Met Ala Ala Ile Lys Glu
385 390 395 400

Ser Trp Thr His Asn Ile Gln Arg Glu Lys Glu Phe Leu Arg Lys Leu
405 410 415

Val Lys Ala Arg Val Ile Thr Asp Leu Ser Ser Gly Ile
420 425

<210> 51
<211> 375
<212> PRT
<213> Homo sapiens

<400> 51

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Asn Ser Val Val Leu Ser Phe Asp Ser
35 40 45

Ala Gly Gln Thr Leu Gly Ser Glu Tyr Asp Arg Leu Gly Phe Leu Leu
50 55 60

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

Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala Ser Ala Leu Met Thr
85 90 95

Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro Met Phe Leu Asp Asp
100 105 110

Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe Val Pro Pro Phe Gly
115 120 125

Ile Lys Gly Gln Asp Asn Leu Ile Lys Ala Ile Leu Ser Val Thr Lys
130 135 140

Glu Tyr Arg Leu Thr Pro Ala Leu Asp Ser Leu Arg Cys Arg Arg Cys
145 150 155 160

Ile Ile Val Gly Asn Gly Gly Val Leu Ala Asn Lys Ser Leu Gly Ser
165 170 175

Arg Ile Asp Asp Tyr Asp Ile Val Val Arg Leu Asn Ser Ala Pro Val
180 185 190

Lys Gly Phe Glu Lys Asp Val Gly Ser Lys Thr Thr Leu Arg Ile Thr
195 200 205

Tyr Pro Glu Gly Ala Met Gln Arg Pro Glu Gln Tyr Glu Arg Asp Ser
210 215 220

Leu Phe Val Leu Ala Gly Phe Lys Trp Gln Asp Phe Lys Trp Leu Lys
225 230 235 240

Tyr Ile Val Tyr Lys Glu Arg Val Ser Ala Ser Asp Gly Phe Trp Lys
245 250 255

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

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

Phe Asn Asn Gly Leu Met Gly Arg Gly Asn Ile Pro Thr Leu Gly Ser
290 295 300

Val Ala Val Thr Met Ala Leu His Gly Cys Asp Glu Val Ala Val Ala
305 310 315 320

Gly Phe Gly Tyr Asp Met Ser Thr Pro Asn Ala Pro Leu His Tyr Tyr
325 330 335

Glu Thr Val Arg Met Ala Ala Ile Lys Glu Ser Trp Thr His Asn Ile
340 345 350

Gln Arg Glu Lys Glu Phe Leu Arg Lys Leu Val Lys Ala Arg Val Ile
355 360 365

Thr Asp Leu Ser Ser Gly Ile
370 375

<210> 52
<211> 277
<212> PRT
<213> Homo sapiens

<400> 52

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

245

250

255

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

Leu Ser Ser Gly Ile
 275

<210> 53
 <211> 155
 <212> PRT
 <213> Homo sapiens

<400> 53

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
 1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
 20 25 30

Leu Gln Trp Glu Glu Asp Ser Asn Ser Val Val Leu Ser Phe Asp Ser
 35 40 45

Ala Gly Gln Thr Leu Gly Ser Glu Tyr Asp Arg Leu Gly Phe Leu Leu
 50 55 60

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

Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala Ser Ala Leu Met Thr
 85 90 95

Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro Met Phe Leu Asp Asp
 100 105 110

Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe Val Pro Pro Phe Gly
 115 120 125

Ile Lys Gly Gln Val Leu Asp Ala Gln Tyr Pro Ala Arg Glu Arg Val
 130 135 140

Ser Ala Glu Ala Gly Glu Ser Ser Arg His His
 145 150 155

<210> 54
 <211> 413
 <212> PRT

<213> Homo sapiens

<400> 54

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Lys Tyr Asp Arg Leu Gly Phe Leu Leu
35 40 45

Asn Leu Asp Ser Lys Leu Ser Pro Arg Thr Leu Cys Thr Val Val Phe
50 55 60

Gly Leu Asp Cys Ile Leu Glu Ser Pro Gly Glu Pro Lys Lys Leu Leu
65 70 75 80

Met Pro Ala Ser His Pro Leu Glu Ile Leu Lys Ser Leu Ser Glu Asp
85 90 95

Ala Ala Phe Ala Leu Gly Phe Leu Lys Leu Pro Arg Pro Ala Glu Leu
100 105 110

Ala Thr Lys Tyr Ala Asn Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr
115 120 125

Ala Ser Ala Leu Met Thr Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala
130 135 140

Pro Met Phe Leu Asp Asp Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu
145 150 155 160

Phe Val Pro Pro Phe Gly Ile Lys Gly Gln Asp Asn Leu Ile Lys Ala
165 170 175

Ile Leu Ser Val Thr Lys Glu Tyr Arg Leu Thr Pro Ala Leu Asp Ser
180 185 190

Leu Arg Cys Arg Arg Cys Ile Ile Val Gly Asn Gly Gly Val Leu Ala
195 200 205

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

Leu Asn Ser Ala Pro Val Lys Gly Phe Glu Lys Asp Val Gly Ser Lys

225		230		235		240
Thr Thr Leu Arg	Ile Thr Tyr Pro Glu Gly Ala Met Gln Arg Pro Glu					
	245		250		255	
Gln Tyr Glu Arg Asp Ser Leu Phe Val Leu Ala Gly Phe Lys Trp Gln						
	260		265		270	
Asp Phe Lys Trp Leu Lys Tyr Ile Val Tyr Lys Glu Arg Val Ser Ala						
	275		280		285	
Ser Asp Gly Phe Trp Lys Ser Val Ala Thr Arg Val Pro Lys Glu Pro						
	290		295		300	
Pro Glu Ile Arg Ile Leu Asn Pro Tyr Phe Ile Gln Glu Ala Ala Phe						
305		310		315		320
Thr Leu Ile Gly Leu Pro Phe Asn Asn Gly Leu Met Gly Arg Gly Asn						
	325		330		335	
Ile Pro Thr Leu Gly Ser Val Ala Val Thr Met Ala Leu His Gly Cys						
	340		345		350	
Asp Glu Val Ala Val Ala Gly Phe Gly Tyr Asp Met Ser Thr Pro Asn						
	355		360		365	
Ala Pro Leu His Tyr Tyr Glu Thr Val Arg Met Ala Ala Ile Lys Glu						
	370		375		380	
Ser Trp Thr His Asn Ile Gln Arg Glu Lys Glu Phe Leu Arg Lys Leu						
385		390		395		400
Val Lys Ala Arg Val Ile Thr Asp Leu Ser Ser Gly Ile						
	405		410			

<210> 55
 <211> 359
 <212> PRT
 <213> Homo sapiens

<400> 55

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Lys Tyr Asp Arg Leu Gly Phe Leu Leu
35 40 45

Asn Leu Asp Ser Lys Leu Pro Ala Glu Leu Ala Thr Lys Tyr Ala Asn
50 55 60

Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala Ser Ala Leu Met Thr
65 70 75 80

Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro Met Phe Leu Asp Asp
85 90 95

Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe Val Pro Pro Phe Gly
100 105 110

Ile Lys Gly Gln Asp Asn Leu Ile Lys Ala Ile Leu Ser Val Thr Lys
115 120 125

Glu Tyr Arg Leu Thr Pro Ala Leu Asp Ser Leu Arg Cys Arg Arg Cys
130 135 140

Ile Ile Val Gly Asn Gly Gly Val Leu Ala Asn Lys Ser Leu Gly Ser
145 150 155 160

Arg Ile Asp Asp Tyr Asp Ile Val Val Arg Leu Asn Ser Ala Pro Val
165 170 175

Lys Gly Phe Glu Lys Asp Val Gly Ser Lys Thr Thr Leu Arg Ile Thr
180 185 190

Tyr Pro Glu Gly Ala Met Gln Arg Pro Glu Gln Tyr Glu Arg Asp Ser
195 200 205

Leu Phe Val Leu Ala Gly Phe Lys Trp Gln Asp Phe Lys Trp Leu Lys
210 215 220

Tyr Ile Val Tyr Lys Glu Arg Val Ser Ala Ser Asp Gly Phe Trp Lys
225 230 235 240

Ser Val Ala Thr Arg Val Pro Lys Glu Pro Pro Glu Ile Arg Ile Leu
245 250 255

Asn Pro Tyr Phe Ile Gln Glu Ala Ala Phe Thr Leu Ile Gly Leu Pro
260 265 270

Phe Asn Asn Gly Leu Met Gly Arg Gly Asn Ile Pro Thr Leu Gly Ser
275 280 285

Val Ala Val Thr Met Ala Leu His Gly Cys Asp Glu Val Ala Val Ala
290 295 300

Gly Phe Gly Tyr Asp Met Ser Thr Pro Asn Ala Pro Leu His Tyr Tyr
305 310 315 320

Glu Thr Val Arg Met Ala Ala Ile Lys Glu Ser Trp Thr His Asn Ile
325 330 335

Gln Arg Glu Lys Glu Phe Leu Arg Lys Leu Val Lys Ala Arg Val Ile
340 345 350

Thr Asp Leu Ser Ser Gly Ile
355

<210> 56
<211> 139
<212> PRT
<213> Homo sapiens

<400> 56

Met Gly Leu Leu Val Phe Val Arg Asn Leu Leu Leu Ala Leu Cys Leu
1 5 10 15

Phe Leu Val Leu Gly Phe Leu Tyr Tyr Ser Ala Trp Lys Leu His Leu
20 25 30

Leu Gln Trp Glu Glu Asp Ser Lys Tyr Asp Arg Leu Gly Phe Leu Leu
35 40 45

Asn Leu Asp Ser Lys Leu Pro Ala Glu Leu Ala Thr Lys Tyr Ala Asn
50 55 60

Phe Ser Glu Gly Ala Cys Lys Pro Gly Tyr Ala Ser Ala Leu Met Thr
65 70 75 80

Ala Ile Phe Pro Arg Phe Ser Lys Pro Ala Pro Met Phe Leu Asp Asp
85 90 95

Ser Phe Arg Lys Trp Ala Arg Ile Arg Glu Phe Val Pro Pro Phe Gly
100 105 110

Ile Lys Gly Gln Val Leu Asp Ala Gln Tyr Pro Ala Arg Glu Arg Val
115 120 125

Ser Ala Glu Ala Gly Glu Ser Ser Arg His His
130 135

<210> 57
<211> 331
<212> PRT
<213> Homo sapiens

<400> 57

Met Arg Gly Tyr Leu Val Ala Ile Phe Leu Ser Ala Val Phe Leu Tyr
1 5 10 15

Tyr Val Leu His Cys Ile Leu Trp Gly Thr Asn Val Tyr Trp Val Ala
20 25 30

Pro Val Glu Met Lys Arg Arg Asn Lys Ile Gln Pro Cys Leu Ser Lys
35 40 45

Pro Ala Phe Ala Ser Leu Leu Arg Phe His Gln Phe His Pro Phe Leu
50 55 60

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

Phe Asp Leu Pro Tyr Gly Met Arg Thr Ser Ala Glu Tyr Phe Arg Leu
85 90 95

Ala Leu Ser Lys Leu Gln Ser Cys Asp Leu Phe Asp Glu Phe Asp Asn
100 105 110

Ile Pro Cys Lys Lys Cys Val Val Val Gly Asn Gly Gly Val Leu Lys
115 120 125

Asn Lys Thr Leu Gly Glu Lys Ile Asp Ser Tyr Asp Val Ile Ile Arg
130 135 140

Met Asn Asn Gly Pro Val Leu Gly His Glu Glu Glu Val Gly Arg Arg
145 150 155 160

Thr Thr Phe Arg Leu Phe Tyr Pro Glu Ser Val Phe Ser Asp Pro Ile
165 170 175

His Asn Asp Pro Asn Thr Thr Val Ile Leu Thr Ala Phe Lys Pro His
180 185 190

Asp Leu Arg Trp Leu Leu Glu Leu Leu Met Gly Asp Lys Ile Asn Thr
195 200 205

Asn Gly Phe Trp Lys Lys Pro Ala Leu Asn Leu Ile Tyr Lys Pro Tyr
210 215 220

Gln Ile Arg Ile Leu Asp Pro Phe Ile Ile Arg Thr Ala Ala Tyr Glu
225 230 235 240

Leu Leu His Phe Pro Lys Val Phe Pro Lys Asn Gln Lys Pro Lys His
245 250 255

Pro Thr Thr Gly Ile Ile Ala Ile Thr Leu Ala Phe Tyr Ile Cys His
260 265 270

Glu Val His Leu Ala Gly Phe Lys Tyr Asn Phe Ser Asp Leu Lys Ser
275 280 285

Pro Leu His Tyr Tyr Gly Asn Ala Thr Met Ser Leu Met Asn Lys Asn
290 295 300

Ala Tyr His Asn Val Thr Ala Glu Gln Leu Phe Leu Lys Asp Ile Ile
305 310 315 320

Glu Lys Asn Leu Val Ile Asn Leu Thr Gln Asp
325 330

<210> 58
<211> 722
<212> PRT
<213> Mus musculus

<400> 58

Met Glu Lys Asn Gly Asn Asn Arg Lys Leu Arg Val Cys Val Ala Thr
1 5 10 15

Cys Asn Arg Ala Asp Tyr Ser Lys Leu Ala Pro Ile Met Phe Gly Ile
20 25 30

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

His Leu Ile Asp Asp Tyr Gly Asn Thr Tyr Arg Met Ile Glu Gln Asp
50 55 60

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

Glu Ala Ala Met Val Glu Ser Val Gly Leu Ala Leu Val Lys Leu Pro
85 90 95

Asp Val Leu Asn Arg Leu Lys Pro Asp Ile Met Ile Val His Gly Asp
100 105 110

Arg Phe Asp Ala Leu Ala Leu Ala Thr Ser Ala Ala Leu Met Asn Ile
115 120 125

Arg Ile Leu His Ile Glu Gly Gly Glu Val Ser Gly Thr Ile Asp Asp
130 135 140

Ser Ile Arg His Ala Ile Thr Lys Leu Ala His Tyr His Val Cys Cys
145 150 155 160

Thr Arg Ser Ala Glu Gln His Leu Ile Ser Met Cys Glu Asp His Asp
165 170 175

Arg Ile Leu Leu Ala Gly Cys Pro Ser Tyr Asp Lys Leu Leu Ser Ala
180 185 190

Lys Asn Lys Asp Tyr Met Ser Ile Ile Arg Met Trp Leu Gly Asp Asp
195 200 205

Val Lys Cys Lys Asp Tyr Ile Val Ala Leu Gln His Pro Val Thr Thr
210 215 220

Asp Ile Lys His Ser Ile Lys Met Phe Glu Leu Thr Leu Asp Ala Leu
225 230 235 240

Ile Ser Phe Asn Lys Arg Thr Leu Val Leu Phe Pro Asn Ile Asp Ala
245 250 255

Gly Ser Lys Glu Met Val Arg Val Met Arg Lys Lys Gly Ile Glu His
260 265 270

His Pro Asn Phe Arg Ala Val Lys His Val Pro Phe Asp Gln Phe Ile
275 280 285

Gln Leu Val Ala His Ala Gly Cys Met Ile Gly Asn Ser Ser Cys Gly
290 295 300

Val Arg Glu Val Gly Ala Phe Gly Thr Pro Val Ile Asn Leu Gly Thr
305 310 315 320

Arg Gln Ile Gly Arg Glu Thr Gly Glu Asn Val Leu His Val Arg Asp
325 330 335

Ala Asp Thr Gln Asp Lys Ile Leu Gln Ala Leu His Leu Gln Phe Gly
340 345 350

Lys Gln Tyr Pro Cys Ser Lys Ile Tyr Gly Asp Gly Asn Ala Val Pro
355 360 365

Arg Ile Leu Lys Phe Leu Lys Ser Ile Asp Leu Gln Glu Pro Leu Gln
370 375 380

Lys Lys Phe Cys Phe Pro Pro Val Lys Glu Asn Ile Ser Gln Asp Ile
385 390 395 400

Asp His Ile Leu Glu Thr Leu Ser Ala Leu Ala Val Asp Leu Gly Gly
405 410 415

Thr Asn Leu Arg Val Ala Ile Val Ser Met Lys Gly Glu Ile Val Lys
420 425 430

Lys Tyr Thr Gln Phe Asn Pro Lys Thr Tyr Glu Glu Arg Ile Ser Leu
435 440 445

Ile Leu Gln Met Cys Val Glu Ala Ala Ala Glu Ala Val Lys Leu Asn
450 455 460

Cys Arg Ile Leu Gly Val Gly Ile Ser Thr Gly Gly Arg Val Asn Pro
465 470 475 480

Gln Glu Gly Val Val Leu His Ser Thr Lys Leu Ile Gln Glu Trp Asn
485 490 495

Ser Val Asp Leu Arg Thr Pro Leu Ser Asp Thr Leu His Leu Pro Val
500 505 510

Trp Val Asp Asn Asp Gly Asn Cys Ala Ala Met Ala Glu Arg Lys Phe
515 520 525

Gly Gln Gly Lys Gly Gln Glu Asn Phe Val Thr Leu Ile Thr Gly Thr
530 535 540

Gly Ile Gly Gly Gly Ile Ile His Gln His Glu Leu Ile His Gly Ser
545 550 555 560

Ser Phe Cys Ala Ala Glu Leu Gly His Leu Val Val Ser Leu Asp Gly
565 570 575

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

Gly Met Ala Leu Gln Arg Glu Ala Lys Lys Leu His Asp Glu Asp Leu
595 600 605

Leu Leu Val Glu Gly Met Ser Val Pro Lys Asp Glu Ala Val Gly Ala
610 615 620

Leu His Leu Ile Gln Ala Ala Lys Leu Gly Asn Val Lys Ala Gln Ser
625 630 635 640

Ile Leu Arg Thr Ala Gly Thr Ala Leu Gly Leu Gly Val Val Asn Ile
645 650 655

Leu His Thr Met Asn Pro Ser Leu Val Ile Leu Ser Gly Val Leu Ala
660 665 670

Ser His Tyr Ile His Ile Val Lys Asp Val Ile Arg Gln Gln Ala Leu
675 680 685

Ser Ser Val Gln Asp Val Asp Val Val Val Ser Asp Leu Val Asp Pro
690 695 700

Ala Leu Leu Gly Ala Ala Ser Met Val Leu Asp Tyr Thr Thr Arg Arg
705 710 715 720

Ile His

<210> 59
<211> 722
<212> PRT
<213> Homo sapiens

<400> 59

Met Glu Lys Asn Gly Asn Asn Arg Lys Leu Arg Val Cys Val Ala Thr
1 5 10 15

Cys Asn Arg Ala Asp Tyr Ser Lys Leu Ala Pro Ile Met Phe Gly Ile
20 25 30

Lys Thr Glu Pro Glu Phe Phe Glu Leu Asp Val Val Val Leu Gly Ser
35 40 45

His Leu Ile Asp Asp Tyr Gly Asn Thr Tyr Arg Met Ile Glu Gln Asp
50 55 60

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

Glu Ala Ala Met Val Glu Ser Val Gly Leu Ala Leu Val Lys Leu Pro
85 90 95

Asp Val Leu Asn Arg Leu Lys Pro Asp Ile Met Ile Val His Gly Asp
100 105 110

Arg Phe Asp Ala Leu Ala Leu Ala Thr Ser Ala Ala Leu Met Asn Ile
115 120 125

Arg Ile Leu His Ile Glu Gly Gly Glu Val Ser Gly Thr Ile Asp Asp
130 135 140

Ser Ile Arg His Ala Ile Thr Lys Leu Ala His Tyr His Val Cys Cys
145 150 155 160

Thr Arg Ser Ala Glu Gln His Leu Ile Ser Met Cys Glu Asp His Asp
165 170 175

Arg Ile Leu Leu Ala Gly Cys Pro Ser Tyr Asp Lys Leu Leu Ser Ala
180 185 190

Lys Asn Lys Asp Tyr Met Ser Ile Ile Arg Met Trp Leu Gly Asp Asp
195 200 205

Val Lys Ser Lys Asp Tyr Ile Val Ala Leu Gln His Pro Val Thr Thr
210 215 220

Asp Ile Lys His Ser Ile Lys Met Phe Glu Leu Thr Leu Asp Ala Leu
225 230 235 240

Ile Ser Phe Asn Lys Arg Thr Leu Val Leu Phe Pro Asn Ile Asp Ala
245 250 255

Gly Ser Lys Glu Met Val Arg Val Met Arg Lys Lys Gly Ile Glu His
260 265 270

His Pro Asn Phe Arg Ala Val Lys His Val Pro Phe Asp Gln Phe Ile
275 280 285

Gln Leu Val Ala His Ala Gly Cys Met Ile Gly Asn Ser Ser Cys Gly
290 295 300

Val Arg Glu Val Gly Ala Phe Gly Thr Pro Val Ile Asn Leu Gly Thr
305 310 315 320

Arg Gln Ile Gly Arg Glu Thr Gly Glu Asn Val Leu His Val Arg Asp
325 330 335

Ala Asp Thr Gln Asp Lys Ile Leu Gln Ala Leu His Leu Gln Phe Gly
340 345 350

Lys Gln Tyr Pro Cys Ser Lys Ile Tyr Gly Asp Gly Asn Ala Val Pro
355 360 365

Arg Ile Leu Lys Phe Leu Lys Ser Ile Asp Leu Gln Glu Pro Leu Gln
370 375 380

Lys Lys Phe Cys Phe Pro Pro Val Lys Glu Asn Ile Ser Gln Asp Ile
385 390 395 400

Asp His Ile Leu Glu Thr Leu Ser Ala Leu Ala Val Asp Leu Gly Gly
405 410 415

Thr Asn Leu Arg Val Ala Ile Val Ser Met Lys Gly Glu Ile Val Lys
420 425 430

Lys Tyr Thr Gln Phe Asn Pro Lys Thr Tyr Glu Glu Arg Ile Asn Leu
435 440 445

Ile Leu Gln Met Cys Val Glu Ala Ala Ala Glu Ala Val Lys Leu Asn
450 455 460

Cys Arg Ile Leu Gly Val Gly Ile Ser Thr Gly Gly Arg Val Asn Pro
465 470 475 480

Arg Glu Gly Ile Val Leu His Ser Thr Lys Leu Ile Gln Glu Trp Asn
485 490 495

Ser Val Asp Leu Arg Thr Pro Leu Ser Asp Thr Leu His Leu Pro Val
500 505 510

Trp Val Asp Asn Asp Gly Asn Cys Ala Ala Leu Ala Glu Arg Lys Phe
515 520 525

Gly Gln Gly Lys Gly Leu Glu Asn Phe Val Thr Leu Ile Thr Gly Thr
530 535 540

Gly Ile Gly Gly Gly Ile Ile His Gln His Glu Leu Ile His Gly Ser
545 550 555 560

Ser Phe Cys Ala Ala Glu Leu Gly His Leu Val Val Ser Leu Asp Gly
565 570 575

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

Gly Met Ala Leu Gln Arg Glu Ala Lys Lys Leu His Asp Glu Asp Leu
595 600 605

Leu Leu Val Glu Gly Met Ser Val Pro Lys Asp Glu Ala Val Gly Ala
610 615 620

Leu His Leu Ile Gln Ala Ala Lys Leu Gly Asn Ala Lys Ala Gln Ser
625 630 635 640

Ile Leu Arg Thr Ala Gly Thr Ala Leu Gly Leu Gly Val Val Asn Ile
645 650 655

Leu His Thr Met Asn Pro Ser Leu Val Ile Leu Ser Gly Val Leu Ala
660 665 670

Ser His Tyr Ile His Ile Val Lys Asp Val Ile Arg Gln Gln Ala Leu
675 680 685

Ser Ser Val Gln Asp Val Asp Val Val Val Ser Asp Leu Val Asp Pro
690 695 700

Ala Leu Leu Gly Ala Ala Ser Met Val Leu Asp Tyr Thr Thr Arg Arg
705 710 715 720

Ile Tyr

<210> 60
<211> 427
<212> PRT
<213> Homo sapiens

<400> 60

Met Ser Lys Gly Leu Pro Ala Arg Gln Asp Met Glu Lys Glu Arg Glu
1 5 10 15

Thr Leu Gln Ala Trp Lys Glu Arg Val Gly Gln Glu Leu Asp Arg Val
20 25 30

Val Ala Phe Trp Met Glu His Ser His Asp Gln Glu His Gly Gly Phe
35 40 45

Phe Thr Cys Leu Gly Arg Glu Gly Arg Val Tyr Asp Asp Leu Lys Tyr
50 55 60

Val Trp Leu Gln Gly Arg Gln Val Trp Met Tyr Cys Arg Leu Tyr Arg
65 70 75 80

Thr Phe Glu Arg Phe Arg His Ala Gln Leu Leu Asp Ala Ala Lys Ala
85 90 95

Gly Gly Glu Phe Leu Leu Arg Tyr Ala Arg Val Ala Pro Pro Gly Lys
100 105 110

Lys Cys Ala Phe Val Leu Thr Arg Asp Gly Arg Pro Val Lys Val Gln
115 120 125

Arg Thr Ile Phe Ser Glu Cys Phe Tyr Thr Met Ala Met Asn Glu Leu
130 135 140

Trp Arg Ala Thr Gly Glu Val Arg Tyr Gln Thr Glu Ala Val Glu Met
145 150 155 160

Met Asp Gln Ile Val His Trp Val Gln Glu Asp Ala Ser Gly Leu Gly
165 170 175

Arg Pro Gln Leu Gln Gly Ala Pro Ala Ala Glu Pro Met Ala Val Pro
180 185 190

Met Met Leu Leu Asn Leu Val Glu Gln Leu Gly Glu Ala Asp Glu Glu
195 200 205

Leu Ala Gly Lys Tyr Ala Glu Leu Gly Asp Trp Cys Ala Arg Arg Ile
210 215 220

Leu Gln His Val Gln Arg Asp Gly Gln Ala Val Leu Glu Asn Val Ser
225 230 235 240

Glu Gly Gly Lys Glu Leu Pro Gly Cys Leu Gly Arg Gln Gln Asn Pro
245 250 255

Gly His Thr Leu Glu Ala Gly Trp Phe Leu Leu Arg His Cys Ile Arg
260 265 270

Lys Gly Asp Pro Glu Leu Arg Ala His Val Ile Asp Lys Phe Leu Leu
275 280 285

Leu Pro Phe His Ser Gly Trp Asp Pro Asp His Gly Gly Leu Phe Tyr
290 295 300

Phe Gln Asp Ala Asp Asn Phe Cys Pro Thr Gln Leu Glu Trp Ala Met
305 310 315 320

Lys Leu Trp Trp Pro His Ser Glu Ala Met Ile Ala Phe Leu Met Gly
325 330 335

Tyr Ser Asp Ser Gly Asp Pro Val Leu Leu Arg Leu Phe Tyr Gln Val
340 345 350

Ala Glu Tyr Thr Phe Arg Gln Phe Arg Asp Pro Glu Tyr Gly Glu Trp
355 360 365

Phe Gly Tyr Leu Ser Arg Glu Gly Lys Val Ala Leu Ser Ile Lys Gly
370 375 380

Gly Pro Phe Lys Gly Cys Phe His Val Pro Arg Cys Leu Ala Met Cys
385 390 395 400

Glu Glu Met Leu Gly Ala Leu Leu Ser Arg Pro Ala Pro Ala Pro Ser
405 410 415

Pro Ala Pro Thr Pro Ala Cys Arg Gly Ala Glu
420 425

<210> 61
<211> 358
<212> PRT
<213> Homo sapiens

<400> 61

Pro Leu Glu Leu Glu Leu Cys Pro Gly Arg Trp Val Gly Gly Gln His
1 5 10 15

Pro Cys Phe Ile Ile Ala Glu Ile Gly Gln Asn His Gln Gly Asp Leu
20 25 30

Asp Val Ala Lys Arg Met Ile Arg Met Ala Lys Glu Cys Gly Ala Asp

35

40

45

Cys Ala Lys Phe Gln Lys Ser Glu Leu Glu Phe Lys Phe Asn Arg Lys
50 55 60

Ala Leu Glu Arg Pro Tyr Thr Ser Lys His Ser Trp Gly Lys Thr Tyr
65 70 75 80

Gly Glu His Lys Arg His Leu Glu Phe Ser His Asp Gln Tyr Arg Glu
85 90 95

Leu Gln Arg Tyr Ala Glu Glu Val Gly Ile Phe Phe Thr Ala Ser Gly
100 105 110

Met Asp Glu Met Ala Val Glu Phe Leu His Glu Leu Asn Val Pro Phe
115 120 125

Phe Lys Val Gly Ser Gly Asp Thr Asn Asn Phe Pro Tyr Leu Glu Lys
130 135 140

Thr Ala Lys Lys Gly Arg Pro Met Val Ile Ser Ser Gly Met Gln Ser
145 150 155 160

Met Asp Thr Met Lys Gln Val Tyr Gln Ile Val Lys Pro Leu Asn Pro
165 170 175

Asn Phe Cys Phe Leu Gln Cys Thr Ser Ala Tyr Pro Leu Gln Pro Glu
180 185 190

Asp Val Asn Leu Arg Val Ile Ser Glu Tyr Gln Lys Leu Phe Pro Asp
195 200 205

Ile Pro Ile Gly Tyr Ser Gly His Glu Thr Gly Ile Ala Ile Ser Val
210 215 220

Ala Ala Val Ala Leu Gly Ala Lys Val Leu Glu Arg His Ile Thr Leu
225 230 235 240

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

Glu Leu Ala Glu Leu Val Arg Ser Val Arg Leu Val Glu Arg Ala Leu
260 265 270

Gly Ser Pro Thr Lys Gln Leu Leu Pro Cys Glu Met Ala Cys Asn Glu
275 280 285

Lys Leu Gly Lys Ser Val Val Ala Lys Val Lys Ile Pro Glu Gly Thr
290 295 300

Ile Leu Thr Met Asp Met Leu Thr Val Lys Val Gly Glu Pro Lys Gly
305 310 315 320

Tyr Pro Pro Glu Asp Ile Phe Asn Leu Val Gly Lys Lys Val Leu Val
325 330 335

Thr Val Glu Glu Asp Asp Thr Ile Met Glu Glu Leu Val Asp Asn His
340 345 350

Gly Lys Lys Ile Lys Ser
355

<210> 62
<211> 432
<212> PRT
<213> Mus musculus

<400> 62

Met Asp Ala Leu Glu Lys Gly Ala Val Thr Ser Gly Pro Ala Pro Arg
1 5 10 15

Gly Arg Pro Ser Arg Gly Arg Pro Pro Lys Leu Gln Arg Ser Arg Gly
20 25 30

Ala Gly Arg Gly Leu Glu Lys Pro Pro His Leu Ala Ala Leu Val Leu
35 40 45

Ala Arg Gly Gly Ser Lys Gly Ile Pro Leu Lys Asn Ile Lys Arg Leu
50 55 60

Ala Gly Val Pro Leu Ile Gly Trp Val Leu Arg Ala Ala Leu Asp Ala
65 70 75 80

Gly Val Phe Gln Ser Val Trp Val Ser Thr Asp His Asp Glu Ile Glu
85 90 95

Asn Val Ala Lys Gln Phe Gly Ala Gln Val His Arg Arg Ser Ser Glu
100 105 110

Thr Ser Lys Asp Ser Ser Thr Ser Leu Asp Ala Ile Val Glu Phe Leu
115 120 125

Asn Tyr His Asn Glu Val Asp Ile Val Gly Asn Ile Gln Ala Thr Ser
130 135 140

Pro Cys Leu His Pro Thr Asp Leu Gln Lys Val Ala Glu Met Ile Arg
145 150 155 160

Glu Glu Gly Tyr Asp Ser Val Phe Ser Val Val Arg Arg His Gln Phe
165 170 175

Arg Trp Ser Glu Ile Gln Lys Gly Val Arg Glu Val Thr Glu Pro Leu
180 185 190

Asn Leu Asn Pro Ala Lys Arg Pro Arg Arg Gln Asp Trp Asp Gly Glu
195 200 205

Leu Tyr Glu Asn Gly Ser Phe Tyr Phe Ala Lys Arg His Leu Ile Glu
210 215 220

Met Gly Tyr Leu Gln Gly Gly Lys Met Ala Tyr Tyr Glu Met Arg Ala
225 230 235 240

Glu His Ser Val Asp Ile Asp Val Asp Ile Asp Trp Pro Ile Ala Glu
245 250 255

Gln Arg Val Leu Arg Phe Gly Tyr Phe Gly Lys Glu Lys Leu Lys Glu
260 265 270

Ile Lys Leu Leu Val Cys Asn Ile Asp Gly Cys Leu Thr Asn Gly His
275 280 285

Ile Tyr Val Ser Gly Asp Gln Lys Glu Ile Ile Ser Tyr Asp Val Lys
290 295 300

Asp Ala Ile Gly Ile Ser Leu Leu Lys Lys Ser Gly Ile Glu Val Arg
305 310 315 320

Leu Ile Ser Glu Arg Ala Cys Ser Lys Gln Thr Leu Ser Ala Leu Lys
325 330 335

Leu Asp Cys Lys Thr Glu Val Ser Val Ser Asp Lys Leu Ala Thr Val
340 345 350

Asp Glu Trp Arg Lys Glu Met Gly Leu Cys Trp Lys Glu Val Ala Tyr
355 360 365

Leu Gly Asn Glu Val Ser Asp Glu Glu Cys Leu Lys Arg Val Gly Leu

370

375

380

Ser Ala Val Pro Ala Asp Ala Cys Ser Gly Ala Gln Lys Ala Val Gly
 385 390 395 400

Tyr Ile Cys Lys Cys Ser Gly Gly Arg Gly Ala Ile Arg Glu Phe Ala
 405 410 415

Glu His Ile Phe Leu Leu Ile Glu Lys Val Asn Asn Ser Cys Gln Lys
 420 425 430

<210> 63

<211> 434

<212> PRT

<213> Homo sapiens

<400> 63

Met Asp Ser Val Glu Lys Gly Ala Ala Thr Ser Val Ser Asn Pro Arg
 1 5 10 15

Gly Arg Pro Ser Arg Gly Arg Pro Pro Lys Leu Gln Arg Asn Ser Arg
 20 25 30

Gly Gly Gln Gly Arg Gly Val Glu Lys Pro Pro His Leu Ala Ala Leu
 35 40 45

Ile Leu Ala Arg Gly Gly Ser Lys Gly Ile Pro Leu Lys Asn Ile Lys
 50 55 60

His Leu Ala Gly Val Pro Leu Ile Gly Trp Val Leu Arg Ala Ala Leu
 65 70 75 80

Asp Ser Gly Ala Phe Gln Ser Val Trp Val Ser Thr Asp His Asp Glu
 85 90 95

Ile Glu Asn Val Ala Lys Gln Phe Gly Ala Gln Val His Arg Arg Ser
 100 105 110

Ser Glu Val Ser Lys Asp Ser Ser Thr Ser Leu Asp Ala Ile Ile Glu
 115 120 125

Phe Leu Asn Tyr His Asn Glu Val Asp Ile Val Gly Asn Ile Gln Ala
 130 135 140

Thr Ser Pro Cys Leu His Pro Thr Asp Leu Gln Lys Val Ala Glu Met
 145 150 155 160

Ile Arg Glu Glu Gly Tyr Asp Ser Val Phe Ser Val Val Arg Arg His
165 170 175

Gln Phe Arg Trp Ser Glu Ile Gln Lys Gly Val Arg Glu Val Thr Glu
180 185 190

Pro Leu Asn Leu Asn Pro Ala Lys Arg Pro Arg Arg Gln Asp Trp Asp
195 200 205

Gly Glu Leu Tyr Glu Asn Gly Ser Phe Tyr Phe Ala Lys Arg His Leu
210 215 220

Ile Glu Met Gly Tyr Leu Gln Gly Gly Lys Met Ala Tyr Tyr Glu Met
225 230 235 240

Arg Ala Glu His Ser Val Asp Ile Asp Val Asp Ile Asp Trp Pro Ile
245 250 255

Ala Glu Gln Arg Val Leu Arg Tyr Gly Tyr Phe Gly Lys Glu Lys Leu
260 265 270

Lys Glu Ile Lys Leu Leu Val Cys Asn Ile Asp Gly Cys Leu Thr Asn
275 280 285

Gly His Ile Tyr Val Ser Gly Asp Gln Lys Glu Ile Ile Ser Tyr Asp
290 295 300

Val Lys Asp Ala Ile Gly Ile Ser Leu Leu Lys Lys Ser Gly Ile Glu
305 310 315 320

Val Arg Leu Ile Ser Glu Arg Ala Cys Ser Lys Gln Thr Leu Ser Ser
325 330 335

Leu Lys Leu Asp Cys Lys Met Glu Val Ser Val Ser Asp Lys Leu Ala
340 345 350

Val Val Asp Glu Trp Arg Lys Glu Met Gly Leu Cys Trp Lys Glu Val
355 360 365

Ala Tyr Leu Gly Asn Glu Val Ser Asp Glu Glu Cys Leu Lys Arg Val
370 375 380

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

Val Gly Tyr Ile Cys Lys Cys Asn Gly Gly Arg Gly Ala Ile Arg Glu
405 410 415

Phe Ala Glu His Ile Cys Leu Leu Met Glu Lys Val Asn Asn Ser Cys
420 425 430

Gln Lys

<210> 64
<211> 336
<212> PRT
<213> Mus musculus

<400> 64

Met Ala Pro Ala Arg Glu Asn Val Ser Leu Phe Phe Lys Leu Tyr Cys
1 5 10 15

Leu Ala Val Met Thr Leu Val Ala Ala Tyr Thr Val Ala Leu Arg
20 25 30

Tyr Thr Arg Thr Thr Ala Glu Glu Leu Tyr Phe Ser Thr Thr Ala Val
35 40 45

Cys Ile Thr Glu Val Ile Lys Leu Leu Ile Ser Val Gly Leu Leu Ala
50 55 60

Lys Glu Thr Gly Ser Leu Gly Arg Phe Lys Ala Ser Leu Ser Glu Asn
65 70 75 80

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

Val Tyr Ala Val Gln Asn Asn Met Ala Phe Leu Ala Leu Ser Asn Leu
100 105 110

Asp Ala Ala Val Tyr Gln Val Thr Tyr Gln Leu Lys Ile Pro Cys Thr
115 120 125

Ala Leu Cys Thr Val Leu Met Leu Asn Arg Thr Leu Ser Lys Leu Gln
130 135 140

Trp Ile Ser Val Phe Met Leu Cys Gly Gly Val Thr Leu Val Gln Trp
145 150 155 160

Lys Pro Ala Gln Ala Ser Lys Val Val Val Ala Gln Asn Pro Leu Leu
165 170 175

Gly Phe Gly Ala Ile Ala Ile Ala Val Leu Cys Ser Gly Phe Ala Gly
180 185 190

Val Tyr Phe Glu Lys Val Leu Lys Ser Ser Asp Thr Ser Leu Trp Val
195 200 205

Arg Asn Ile Gln Met Tyr Leu Ser Gly Ile Val Val Thr Leu Ala Gly
210 215 220

Thr Tyr Leu Ser Asp Gly Ala Glu Ile Gln Glu Lys Gly Phe Phe Tyr
225 230 235 240

Gly Tyr Thr Tyr Tyr Val Trp Phe Val Ile Phe Leu Ala Ser Val Gly
245 250 255

Gly Leu Tyr Thr Ser Val Val Val Lys Tyr Thr Asp Asn Ile Met Lys
260 265 270

Gly Phe Ser Ala Ala Ala Ala Ile Val Leu Ser Thr Ile Ala Ser Val
275 280 285

Leu Leu Phe Gly Leu Gln Ile Thr Leu Ser Phe Ala Leu Gly Ala Leu
290 295 300

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

Thr Ser Ile Gln Gln Glu Ala Thr Ser Lys Glu Arg Ile Ile Gly Val
325 330 335

<210> 65
<211> 337
<212> PRT
<213> Homo sapiens

<400> 65

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

Leu Ala Val Met Thr Leu Met Ala Ala Val Tyr Thr Ile Ala Leu Arg
20 25 30

Tyr Thr Arg Thr Ser Asp Lys Glu Leu Tyr Phe Ser Thr Thr Ala Val
35 40 45

Cys Ile Thr Glu Val Ile Lys Leu Leu Leu Ser Val Gly Ile Leu Ala
50 55 60

Lys Glu Thr Gly Ser Leu Gly Arg Phe Lys Ala Ser Leu Arg Glu Asn
65 70 75 80

Val Leu Gly Ser Pro Lys Glu Leu Leu Lys Leu Ser Val Pro Ser Leu
85 90 95

Val Tyr Ala Val Gln Asn Asn Met Ala Phe Leu Ala Leu Ser Asn Leu
100 105 110

Asp Ala Ala Val Tyr Gln Val Thr Tyr Gln Leu Lys Ile Pro Cys Thr
115 120 125

Ala Leu Cys Thr Val Leu Met Leu Asn Arg Thr Leu Ser Lys Leu Gln
130 135 140

Trp Val Ser Val Phe Met Leu Cys Ala Gly Val Thr Leu Val Gln Trp
145 150 155 160

Lys Pro Ala Gln Ala Thr Lys Val Val Val Glu Gln Asn Pro Leu Leu
165 170 175

Gly Phe Gly Ala Ile Ala Ile Ala Val Leu Cys Ser Gly Phe Ala Gly
180 185 190

Val Tyr Phe Glu Lys Val Leu Lys Ser Ser Asp Thr Ser Leu Trp Val
195 200 205

Arg Asn Ile Gln Met Tyr Leu Ser Gly Ile Ile Val Thr Leu Ala Gly
210 215 220

Val Tyr Leu Ser Asp Gly Ala Glu Ile Lys Glu Lys Gly Phe Phe Tyr
225 230 235 240

Gly Tyr Thr Tyr Tyr Val Trp Phe Val Ile Phe Leu Ala Ser Val Gly
245 250 255

Gly Leu Tyr Thr Ser Val Val Val Lys Tyr Thr Asp Asn Ile Met Lys
260 265 270

Gly Phe Ser Ala Ala Ala Ala Ile Val Leu Ser Thr Ile Ala Ser Val
275 280 285

Met Leu Phe Gly Leu Gln Ile Thr Leu Thr Phe Ala Leu Gly Thr Leu

290

295

300

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

Thr Ser Ile Gln Gln Gly Glu Thr Ala Ser Lys Glu Arg Val Ile Gly
 325 330 335

Val

<210> 66
 <211> 398
 <212> PRT
 <213> Homo sapiens

<400> 66

Met Arg Leu Arg Glu Pro Leu Leu Ser Gly Ser Ala Ala Met Pro Gly
 1 5 10 15

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

His Leu Gly Val Thr Leu Val Tyr Tyr Leu Ala Gly Arg Asp Leu Ser
 35 40 45

Arg Leu Pro Gln Leu Val Gly Val Ser Thr Pro Leu Gln Gly Gly Ser
 50 55 60

Asn Ser Ala Ala Ala Ile Gly Gln Ser Ser Gly Glu Leu Arg Thr Gly
 65 70 75 80

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

Gly Gly Asp Ser Ser Pro Val Val Asp Ser Gly Pro Gly Pro Ala Ser
 100 105 110

Asn Leu Thr Ser Val Pro Val Pro His Thr Thr Ala Leu Ser Leu Pro
 115 120 125

Ala Cys Pro Glu Glu Ser Pro Leu Leu Val Gly Pro Met Leu Ile Glu
 130 135 140

Phe Asn Met Pro Val Asp Leu Glu Leu Val Ala Lys Gln Asn Pro Asn
 145 150 155 160

Val Lys Met Gly Gly Arg Tyr Ala Pro Arg Asp Cys Val Ser Pro His
165 170 175

Lys Val Ala Ile Ile Ile Pro Phe Arg Asn Arg Gln Glu His Leu Lys
180 185 190

Tyr Trp Leu Tyr Tyr Leu His Pro Val Leu Gln Arg Gln Gln Leu Asp
195 200 205

Tyr Gly Ile Tyr Val Ile Asn Gln Ala Gly Asp Thr Ile Phe Asn Arg
210 215 220

Ala Lys Leu Leu Asn Val Gly Phe Gln Glu Ala Leu Lys Asp Tyr Asp
225 230 235 240

Tyr Thr Cys Phe Val Phe Ser Asp Val Asp Leu Ile Pro Met Asn Asp
245 250 255

His Asn Ala Tyr Arg Cys Phe Ser Gln Pro Arg His Ile Ser Val Ala
260 265 270

Met Asp Lys Phe Gly Phe Ser Leu Pro Tyr Val Gln Tyr Phe Gly Gly
275 280 285

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

Asn Asn Tyr Trp Gly Trp Gly Gly Glu Asp Asp Asp Ile Phe Asn Arg
305 310 315 320

Leu Val Phe Arg Gly Met Ser Ile Ser Arg Pro Asn Ala Val Val Gly
325 330 335

Arg Cys Arg Met Ile Arg His Ser Arg Asp Lys Lys Asn Glu Pro Asn
340 345 350

Pro Gln Arg Phe Asp Arg Ile Ala His Thr Lys Glu Thr Met Leu Ser
355 360 365

Asp Gly Leu Asn Ser Leu Thr Tyr Gln Val Leu Asp Val Gln Arg Tyr
370 375 380

Pro Leu Tyr Thr Gln Ile Thr Val Asp Ile Gly Thr Pro Ser
385 390 395

<210> 67
<211> 346
<212> PRT
<213> Mus musculus

<400> 67

Met Arg Phe Arg Glu Gln Phe Leu Gly Gly Ser Ala Ala Met Pro Gly
1 5 10 15

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

His Leu Gly Val Thr Leu Val Tyr Tyr Leu Ser Gly Arg Asp Leu Ser
35 40 45

Arg Leu Pro Gln Leu Val Gly Val Ser Ser Thr Leu Gln Gly Gly Thr
50 55 60

Asn Gly Ala Ala Ala Ser Lys Gln Pro Pro Gly Glu Gln Arg Pro Arg
65 70 75 80

Gly Ala Arg Pro Pro Pro Pro Leu Gly Val Ser Pro Lys Pro Arg Pro
85 90 95

Gly Leu Asp Ser Ser Pro Gly Ala Ala Ser Gly Pro Gly Leu Lys Ser
100 105 110

Asn Leu Ser Ser Leu Pro Val Pro Thr Thr Thr Gly Leu Leu Ser Leu
115 120 125

Pro Ala Cys Pro Glu Glu Ser Pro Leu Leu Val Gly Pro Met Leu Ile
130 135 140

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

Glu Ile Lys Thr Gly Gly Arg Tyr Ser Pro Lys Asp Cys Val Ser Pro
165 170 175

His Lys Val Ala Ile Ile Ile Pro Phe Arg Asn Arg Gln Glu His Leu
180 185 190

Lys Tyr Trp Leu Tyr Tyr Leu His Pro Ile Leu Gln Arg Gln Gln Leu
195 200 205

Asp Tyr Gly Ile Tyr Val Ile Asn Gln Ala Gly Asp Thr Met Phe Asn
210 215 220

Arg Ala Lys Leu Leu Asn Ile Gly Phe Gln Glu Ala Leu Lys Asp Tyr
225 230 235 240

Asp Tyr Asn Cys Phe Val Phe Ser Asp Val Asp Leu Ile Pro Met Asp
245 250 255

Asp Arg Asn Ala Tyr Arg Cys Phe Ser Gln Pro Arg His Ile Ser Val
260 265 270

Ala Met Asp Lys Phe Gly Phe Ser Leu Pro Tyr Val Gln Tyr Phe Gly
275 280 285

Gly Val Ser Ala Leu Ser Lys Gln Gln Phe Leu Ala Ile Asn Gly Phe
290 295 300

Pro Asn Asn Tyr Trp Gly Trp Gly Gly Glu Asp Asp Asp Ile Phe Asn
305 310 315 320

Arg Ser Lys Pro Lys Ala Ser Ala Glu Glu Thr Gly Gly Ser Leu Gly
325 330 335

Lys Ala Leu Ser Pro Ala Ser Thr Arg Ala
340 345