SEQUENCE LISTING

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<150> JP 2007-031075
<151> 2007-02-09

<160> 59

<170> PatentIn version 3.3

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35 40 45

Gly Leu Val Gln Trp Thr Lys Asp Gly Leu Ala Leu Gly Gly Glu Arg
50 55 60

Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ser Ala Ser
65 70 75 80

Gly Gln His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala
85 90 95

Ser Tyr Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala
100 105 110

Gln Leu His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly
115 120 125

Pro Ser Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg
130 135 140

Ser Arg Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp
145 150 155 160

Gly Ile Arg Leu Asp Ala Ser Ser Phe His Gln Thr Thr Leu Lys Asp
165 170 175

Lys Ala Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser
180 185 190

His Asp Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu
195 200 205

Pro Thr Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro
210 215 220

Met Val Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys
225 230 235 240

Val Thr Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr
245 250 255

Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg
260 265 270

Leu Glu Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys
275 280 285

Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu
290 295 300

Val Leu Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val
305 310 315 320

Asp Val Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro
325 330 335

Leu Pro Arg Ile Thr Trp Thr Arg Met Gly Gly Ser Gln Val Leu Ser
340 345 350

Ser Gly Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly
355 360 365

Asp Tyr Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly
370 375 380

Lys Ala Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala
385 390 395 400

Leu Gln Pro Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys
405 410 415

Val Val Phe Ala Ser Pro Ala Pro Asp Ser Val Val Trp Ser Trp Asp
420 425 430

Glu Gly Phe Leu Glu Ala Gly Ser Leu Gly Arg Phe Leu Val Glu Ala
435 440 445

Phe Pro Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser
450 455 460

Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe
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Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His
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Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala
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Ala Ser Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu
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Cys Cys Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg
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Ile Pro Gly Ser Ser Glu Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu
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Thr Gly Ser Ser Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser
565 570 575

Asp Leu Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr
580 585 590

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

Leu Pro Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Leu Asp Leu
625 630 635 640

Val Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr
645 650 655

Pro His Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly
660 665 670

Pro Pro Asp Leu Ser Ser Gly Thr Pro Pro Phe Pro Tyr Ala Thr Leu
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Ser Pro Pro Ser His Gln Arg Leu Gln Thr His Val
690 695 700

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<213> Mus musculus

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His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala Ser Tyr
35 40 45

Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala Gln Leu
50 55 60

His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly Pro Ser
65 70 75 80

Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg Ser Arg
85 90 95

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

Arg Leu Asp Ala Ser Ser Phe His Gln Thr Thr Leu Lys Asp Lys Ala
115 120 125

Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser His Asp
130 135 140

Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu Pro Thr
145 150 155 160

Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro Met Val

165 170 175

Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys Val Thr
180 185 190

Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr Arg Trp
195 200 205

Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg Leu Glu
210 215 220

Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys Glu Val
225 230 235 240

Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu Val Leu
245 250 255

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

Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro Leu Pro
275 280 285

Arg Ile Thr Trp Thr Arg Met Gly Gly Ser Gln Val Leu Ser Ser Gly
290 295 300

Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly Asp Tyr

305 310 315 320

Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly Lys Ala
325 330 335

Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala Leu Gln
340 345 350

Pro Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys Val Val
355 360 365

Phe Ala Ser Pro Ala Pro Asp Ser Val Val Trp Ser Trp Asp Glu Gly
370 375 380

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

Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser Val Leu
405 410 415

His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe Asn Cys
420 425 430

Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His Leu Gly
435 440 445

Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala Ala Ser

450 455 460

Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu Cys Cys
465 470 475 480

Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg Ile Pro
485 490 495

Gly Ser Ser Glu Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu Thr Gly
500 505 510

Ser Ser Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser Asp Leu
515 520 525

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

Tyr Tyr Lys Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly Glu Ala
545 550 555 560

Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly Leu Pro
565 570 575

Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Gln Asp Leu Val Pro
580 585 590

Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr Pro His

595 600 605

Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly Pro Pro
610 615 620

Asp Leu Ser Ser Gly Thr Pro Pro Phe Pro Tyr Ala Thr Leu Ser Pro
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Pro Ser His Gln Arg Leu Gln Thr His Val
645 650

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<213> Mus musculus

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cacctgctgg cggccgcgga caagcacgcg ccgggcggct tgcccctggc gggccgcgct 240

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<213> Mus musculus

<400> 6

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Leu Thr Pro Phe Ser Ile Glu Asp Ile Leu Asn Lys Pro Ser Val Arg
35 40 45

Arg Ser Tyr Ser Leu Cys Gly Ala Ala His Leu Leu Ala Ala Ala Asp

50 55 60

Lys His Ala Pro Gly Gly Leu Pro Leu Ala Gly Arg Ala Leu Leu Ser
65 70 75 80

Gln Thr Ser Pro Leu Cys Ala Leu Glu Glu Leu Ala Ser Lys Thr Phe
85 90 95

Lys Gly Leu Glu Val Ser Val Leu Gln Ala Ala Glu Gly Arg Asp Gly
100 105 110

Met Thr Ile Phe Gly Gln Arg Gln Thr Pro Lys Lys Arg Arg Lys Ser
115 120 125

Arg Thr Ala Phe Thr Asn His Gln Ile Tyr Glu Leu Glu Lys Arg Phe
130 135 140

Leu Tyr Gln Lys Tyr Leu Ser Pro Ala Asp Arg Asp Gln Ile Ala Gln
145 150 155 160

Gln Leu Gly Leu Thr Asn Ala Gln Val Ile Thr Trp Phe Gln Asn Arg
165 170 175

Arg Ala Lys Leu Lys Arg Asp Leu Glu Glu Met Lys Ala Asp Val Glu
180 185 190

Ser Ala Lys Lys Leu Gly Pro Ser Gly Gln Met Asp Ile Val Ala Leu

195 200 205

Ala Glu Leu Glu Gln Asn Ser Glu Ala Ser Gly Gly Gly Gly Gly Gly
210 215 220

Gly Cys Gly Arg Ala Lys Ser Arg Pro Gly Ser Pro Ala Leu Pro Pro
225 230 235 240

Gly Ala Pro Gln Ala Pro Gly Gly Gly Pro Leu Gln Leu Ser Pro Ala
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Glu Glu Asp Glu Glu Ile Asp Val Asp Asp
275 280

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gagcggcgcc gcagcccgct ggaccacctg cctccgcctg ccaactccaa caagccagac 240

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ggccgcgcgc tgctctcgaa gacctcgccg ctgtgcgcgc tggaggagct cgccagcaag 420

acgtttaagg ggctggaggt cagcgttctg caggcagccg aaggccgcga cggtatgacc 480

atctttgggc agcggcagac ccctaagaag cggcgaaagt cgcgcacggc cttcaccaac 540

caccagatct atgaattgga aaagcgcttt ctataccaga agtacctgtc ccccgccgat 600

cgcgaccaaa tcgcgcagca gctgggcctc accaacgcgc aagtcatcac ctggttccag 660

aatcggcgcg ctaagctcaa gcgggaactg gaggagatga aggccgacgt ggagtccccc 720

aagaaactgg gccccagcgg gcagatggac atcgtggcgc tggccgaact cgagcagaac 780

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Asp Ala Val Gln His Arg Gly His Pro Gln Gln Ala Val Cys Ala Glu
35 40 45

Lys Leu Leu Ala Ala Trp Gly Gly Ala Pro Ala Gly Arg Arg Gly Gln
50 55 60

Ala Arg Ala Gly Arg Leu Ala Leu Ala Gly Arg Ala Leu Leu Ser Lys
65 70 75 80

Thr Ser Pro Leu Cys Ala Leu Glu Glu Leu Ala Ser Lys Thr Phe Lys
85 90 95

Gly Leu Glu Val Ser Val Leu Gln Ala Ala Glu Gly Arg Asp Gly Met
100 105 110

Thr Ile Phe Gly Gln Arg Gln Thr Pro Lys Lys Arg Arg Lys Ser Arg
115 120 125

Thr Ala Phe Thr Asn His Gln Ile Tyr Glu Leu Glu Lys Arg Phe Leu
130 135 140

Tyr Gln Lys Tyr Leu Ser Pro Ala Asp Arg Asp Gln Ile Ala Gln Gln
145 150 155 160

Leu Gly Leu Thr Asn Ala Gln Val Ile Thr Trp Phe Gln Asn Arg Arg
165 170 175

Ala Lys Leu Lys Arg Glu Leu Glu Glu Met Lys Ala Asp Val Glu Ser
180 185 190

Pro Lys Lys Leu Gly Pro Ser Gly Gln Met Asp Ile Val Ala Leu Ala
195 200 205

Glu Leu Glu Gln Asn Ser Glu Ala Thr Ala Gly Gly Gly Gly Gly Cys
210 215 220

Gly Arg Ala Lys Ser Arg Pro Gly Ser Pro Val Leu Pro Pro Gly Ala
225 230 235 240

Pro Lys Ala Pro Gly Arg Cys Ala Leu Gln Leu Ser Pro Ala Ser Pro
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Asp Glu Glu Ile Asp Val Asp Asp
275 280

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<212> DNA
<213> Mus musculus

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<400> 10

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35 40 45

Arg Pro Cys Asp Ile Ser Arg Gln Leu Arg Val Ser His Gly Cys Val
50 55 60

Ser Lys Ile Leu Gly Arg Tyr Tyr Glu Thr Gly Ser Ile Lys Pro Gly
65 70 75 80

Val Ile Gly Gly Ser Lys Pro Lys Val Ala Thr Pro Lys Val Val Asp
85 90 95

Lys Ile Ala Glu Tyr Lys Arg Gln Asn Pro Thr Met Phe Ala Trp Glu
100 105 110

Ile Arg Ala Gln Leu Leu Arg Glu Gly Ile Cys Asp Asn Asp Thr Val
115 120 125

Pro Ser Val Ser Ser Ile Asn Arg Ile Ile Arg Thr Lys Val Gln Gln
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Pro Phe His Pro Thr Pro Asp Gly Ala Gly Thr Gly Val Thr Ala Pro
145 150 155 160

Gly His Thr Ile Val Pro Ser Thr Ala Ser Pro Pro Val Ser Ser Ala
165 170 175

Ser Asn Asp Pro Val Gly Ser Tyr Ser Ile Asn Gly Ile Leu Gly Ile
180 185 190

Pro Arg Ser Asn Gly Glu Lys Arg Lys Arg Glu Glu Val Glu Val Tyr
195 200 205

Thr Asp Pro Ala His Ile Arg Gly Gly Gly Gly Leu His Leu Val Trp
210 215 220

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

Ser Gly Val Asp Ser Leu Arg Lys His Leu Arg Ala Asp Thr Phe Thr
245 250 255

Gln Gln Gln Leu Glu Ala Leu Asp Arg Val Phe Glu Arg Pro Ser Tyr
260 265 270

Pro Asp Val Phe Gln Ala Ser Glu His Ile Lys Ser Glu Gln Gly Asn
275 280 285

Glu Tyr Ser Leu Pro Ala Leu Thr Pro Gly Leu Asp Glu Val Lys Ser
290 295 300

Ser Leu Ser Ala Ser Ala Asn Pro Glu Leu Gly Ser Asn Val Ser Gly
305 310 315 320

Thr Gln Thr Tyr Pro Val Val Thr Gly Arg Asp Met Thr Ser Thr Thr
325 330 335

Leu Pro Gly Tyr Pro Pro His Leu Pro Pro Thr Gly Gln Gly Ser Tyr
340 345 350

Pro Thr Ser Thr Leu Ala Gly Met Val Pro Gly Ser Glu Phe Ser Gly
355 360 365

Asn Pro Tyr Ser His Pro Gln Tyr Thr Ala Tyr Asn Glu Ala Trp Arg
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Phe Ser Asn Pro Ala Leu Leu Ser Ser Pro Tyr Tyr Tyr Ser Ala Ala
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Pro Arg Ser Ala Pro Ala Ala Arg Ala Ala Ala Tyr Asp Arg His
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Leu Pro Asp Val Val Arg Gln Arg Ile Val Glu Leu Ala His Gln Gly
35 40 45

Val Arg Pro Cys Asp Ile Ser Arg Gln Leu Arg Val Ser His Gly Cys
50 55 60

Val Ser Lys Ile Leu Gly Arg Tyr Tyr Glu Thr Gly Ser Ile Lys Pro
65 70 75 80

Gly Val Ile Gly Gly Ser Lys Pro Lys Val Ala Thr Pro Lys Val Val
85 90 95

Asp Lys Ile Ala Glu Tyr Lys Arg Gln Asn Pro Thr Met Phe Ala Trp

100 105 110

Glu Ile Arg Asp Arg Leu Leu Ala Glu Gly Ile Cys Asp Asn Asp Thr
115 120 125

Val Pro Ser Val Ser Ser Ile Asn Arg Ile Ile Arg Thr Lys Val Gln
130 135 140

Gln Pro Phe His Pro Thr Pro Asp Gly Ala Gly Thr Gly Val Thr Ala
145 150 155 160

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

Ile Pro Arg Ser Asn Gly Glu Lys Arg Lys Arg Asp Glu Asp Val Ser
195 200 205

Glu Gly Ser Val Pro Asn Gly Asp Ser Gln Ser Gly Val Asp Ser Leu
210 215 220

Arg Lys His Leu Arg Ala Asp Thr Phe Thr Gln Gln Gln Leu Glu Ala
225 230 235 240

Leu Asp Arg Val Phe Glu Arg Pro Ser Tyr Pro Asp Val Phe Gln Ala

245 250 255

Ser Glu His Ile Lys Ser Glu Gln Gly Asn Glu Tyr Ser Leu Pro Ala
260 265 270

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

Asn Pro Glu Leu Gly Ser Asn Val Ser Gly Thr Gln Thr Tyr Pro Val
290 295 300

Val Thr Gly Arg Asp Met Ala Ser Thr Thr Leu Pro Gly Tyr Pro Pro
305 310 315 320

His Val Pro Pro Thr Gly Gln Gly Ser Tyr Pro Thr Ser Thr Leu Ala
325 330 335

Gly Met Val Pro Gly Ser Glu Phe Ser Gly Asn Pro Tyr Ser His Pro
340 345 350

Gln Tyr Thr Ala Tyr Asn Glu Ala Trp Arg Phe Ser Asn Pro Ala Leu
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Leu Tyr Cys Lys Asn Asp Phe Phe Arg Cys Phe Gly Thr Lys Cys Ala
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Gly Cys Ala Gln Gly Ile Ser Pro Ser Asp Leu Val Arg Arg Ala Arg
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Ser Lys Val Phe His Leu Asn Cys Phe Thr Cys Met Met Cys Asn Lys
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Gln Leu Ser Thr Gly Glu Glu Leu Tyr Ile Ile Asp Glu Asn Lys Phe
100 105 110

Val Cys Lys Glu Asp Tyr Leu Ser Asn Ser Ser Val Ala Lys Glu Asn
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Ser Leu His Ser Ala Thr Thr Gly Ser Asp Pro Ser Leu Ser Pro Asp
130 135 140

Ser Gln Asp Pro Ser Gln Asp Asp Ala Lys Asp Ser Glu Ser Ala Asn
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Val Ser Asp Lys Glu Gly Gly Ser Asn Glu Asn Asp Asp Gln Asn Leu
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Gly Ala Lys Arg Arg Gly Pro Arg Thr Thr Ile Lys Ala Lys Gln Leu
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Glu Thr Leu Lys Ala Ala Phe Ala Ala Thr Pro Lys Pro Thr Arg His
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Ile Arg Glu Gln Leu Ala Gln Glu Thr Gly Leu Asn Met Arg Val Ile
210 215 220

Gln Val Trp Phe Gln Asn Arg Arg Ser Lys Glu Arg Arg Met Lys Gln
225 230 235 240

Leu Ser Ala Leu Gly Ala Arg Arg His Ala Phe Phe Arg Ser Pro Arg
245 250 255

Arg Met Arg Pro Leu Val Asp Arg Leu Glu Pro Gly Glu Leu Ile Pro
260 265 270

Asn Gly Pro Phe Ser Phe Tyr Gly Asp Tyr Gln Ser Glu Tyr Tyr Gly
275 280 285

Pro Gly Gly Asn Tyr Asp Phe Phe Pro Gln Gly Pro Pro Ser Ser Gln
290 295 300

Ala Gln Thr Pro Val Asp Leu Pro Phe Val Pro Ser Ser Gly Pro Ser
305 310 315 320

Gly Thr Pro Leu Gly Gly Leu Asp His Pro Leu Pro Gly His His Pro
325 330 335

Ser Ser Glu Ala Gln Arg Phe Thr Asp Ile Leu Ala His Pro Pro Gly
340 345 350

Asp Ser Pro Ser Pro Glu Pro Ser Leu Pro Gly Pro Leu His Ser Met
355 360 365

Ser Ala Glu Val Phe Gly Pro Ser Pro Pro Phe Ser Ser Leu Ser Val
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Asn Glu Ala Ala Val Trp
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<213> Homo sapiens

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<400> 16

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Glu Cys Lys Cys Asn Leu Thr Glu Lys Cys Phe Ser Arg Glu Gly Lys
35 40 45

Leu Tyr Cys Lys Asn Asp Phe Phe Arg Cys Phe Gly Thr Lys Cys Ala
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Gly Cys Ala Gln Gly Ile Ser Pro Ser Asp Leu Val Arg Arg Ala Arg
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Ser Lys Val Phe His Leu Asn Cys Phe Thr Cys Met Met Cys Asn Lys
85 90 95

Gln Leu Ser Thr Gly Glu Glu Leu Tyr Ile Ile Asp Glu Asn Lys Phe
100 105 110

Val Cys Lys Glu Asp Tyr Leu Ser Asn Ser Ser Val Ala Lys Glu Asn
115 120 125

Ser Leu His Ser Ala Thr Thr Gly Ser Asp Pro Ser Leu Ser Pro Asp
130 135 140

Ser Gln Asp Pro Ser Gln Asp Asp Ala Lys Asp Ser Glu Ser Ala Asn
145 150 155 160

Val Ser Asp Lys Glu Ala Gly Ser Asn Glu Asn Asp Asp Gln Asn Leu
165 170 175

Gly Ala Lys Arg Arg Gly Pro Arg Thr Thr Ile Lys Ala Lys Gln Leu
180 185 190

Glu Thr Leu Lys Ala Ala Phe Ala Ala Thr Pro Lys Pro Thr Arg His
195 200 205

Ile Arg Glu Gln Leu Ala Gln Glu Thr Gly Leu Asn Met Arg Val Ile
210 215 220

Gln Val Trp Phe Gln Asn Arg Arg Ser Lys Glu Arg Arg Met Lys Gln
225 230 235 240

Leu Ser Ala Leu Gly Ala Arg Arg His Ala Phe Phe Arg Ser Pro Arg
245 250 255

Arg Met Arg Pro Leu Val Asp Arg Leu Glu Pro Gly Glu Leu Ile Pro
260 265 270

Asn Gly Pro Phe Ser Phe Tyr Gly Asp Tyr Gln Ser Glu Tyr Tyr Gly
275 280 285

Pro Gly Gly Asn Tyr Asp Phe Phe Pro Gln Gly Pro Pro Ser Ser Gln
290 295 300

Ala Gln Thr Pro Val Asp Leu Pro Phe Val Pro Ser Ser Gly Pro Ser
305 310 315 320

Gly Thr Pro Leu Gly Gly Leu Glu His Pro Leu Pro Gly His His Pro
325 330 335

Ser Ser Glu Ala Gln Arg Phe Thr Asp Ile Leu Ala His Pro Pro Gly
340 345 350

Asp Ser Pro Ser Pro Glu Pro Ser Leu Pro Gly Pro Leu His Ser Met
355 360 365

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

Asn Gly Gly Ala Ser Tyr Gly Asn His Leu Ser His Pro Pro Glu Met
385 390 395 400

Asn Glu Ala Ala Val Trp
405

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<211> 2405
<212> DNA
<213> Mus musculus

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cccaaggagg acgaggcggc ccgagccgcc ggggcgcgcg gctatgatgg tgcactgtgc 300

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gcgccacatt cgcgaacagc tggcacagga gacgggcctc aacatgaggg tcattcaggt 960

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gagagagaga gagagagaga gagagagaga gagagagaga gagagagaga gagagagaga 1980

gcgcgagcga gctgaggaaa gctcagccag agaagaaaaa tgaggaggac cgccggtgaa 2040

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<211> 402
<212> PRT
<213> Mus musculus

<400> 18

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Cys Glu Cys Lys Thr Asn Leu Ser Glu Lys Cys Phe Ser Arg Glu Gly
35 40 45

Lys Leu Tyr Cys Lys Asn Asp Phe Phe Arg Arg Phe Gly Thr Lys Cys
50 55 60

Ala Gly Cys Ala Gln Gly Ile Ser Pro Ser Asp Leu Val Arg Lys Ala
65 70 75 80

Arg Ser Lys Val Phe His Leu Asn Cys Phe Thr Cys Met Val Cys Asn
85 90 95

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

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

Ser Leu Asn Ser Val Ser Ser Cys Thr Asp Arg Ser Leu Ser Pro Asp
130 135 140

Leu Gln Asp Pro Leu Gln Asp Asp Pro Lys Glu Thr Asp Asn Ser Thr
145 150 155 160

Ser Ser Asp Lys Glu Thr Ala Asn Asn Glu Asn Glu Glu Gln Asn Ser
165 170 175

Gly Thr Lys Arg Arg Gly Pro Arg Thr Thr Ile Lys Ala Lys Gln Leu
180 185 190

Glu Thr Leu Lys Ala Ala Phe Ala Ala Thr Pro Lys Pro Thr Arg His
195 200 205

Ile Arg Glu Gln Leu Ala Gln Glu Thr Gly Leu Asn Met Arg Val Ile
210 215 220

Gln Val Trp Phe Gln Asn Arg Arg Ser Lys Glu Arg Arg Met Lys Gln
225 230 235 240

Leu Ser Ala Leu Gly Ala Arg Arg His Ala Phe Phe Arg Ser Pro Arg
245 250 255

Arg Met Arg Pro Leu Gly Gly Arg Leu Asp Glu Ser Glu Met Leu Gly
260 265 270

Ser Thr Pro Tyr Thr Tyr Tyr Gly Asp Tyr Gln Ser Asp Tyr Tyr Ala
275 280 285

Pro Gly Gly Asn Tyr Asp Phe Phe Ala His Gly Pro Pro Ser Gln Ala
290 295 300

Gln Ser Pro Ala Asp Ser Ser Phe Leu Ala Ala Ser Gly Pro Gly Ser
305 310 315 320

Thr Pro Leu Gly Ala Leu Glu Pro Pro Leu Ala Gly Pro His Gly Ala
325 330 335

Asp Asn Pro Arg Phe Thr Asp Met Ile Ser His Pro Asp Thr Pro Ser
340 345 350

Pro Glu Pro Gly Leu Pro Gly Ala Leu His Pro Met Pro Gly Glu Val
355 360 365

Phe Ser Gly Gly Pro Ser Pro Pro Phe Pro Met Ser Gly Thr Ser Gly
370 375 380

Tyr Ser Gly Pro Leu Ser His Pro Asn Pro Glu Leu Asn Glu Ala Ala
385 390 395 400

Val Trp

<210> 19
<211> 2084
<212> DNA

<213> Homo sapiens

<400> 19

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gaccaaagtc aatactccgg agggtcaaga gatttcgagc acgc 2084

<210> 20
<211> 402
<212> PRT
<213> Homo sapiens

<400> 20

Met Met Val His Cys Ala Gly Cys Glu Arg Pro Ile Leu Asp Arg Phe
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Leu Leu Asn Val Leu Asp Arg Ala Trp His Ile Lys Cys Val Gln Cys
20 25 30

Cys Glu Cys Lys Thr Asn Leu Ser Glu Lys Cys Phe Ser Arg Glu Gly
35 40 45

Lys Leu Tyr Cys Lys Asn Asp Phe Phe Arg Arg Phe Gly Thr Lys Cys
50 55 60

Ala Gly Cys Ala Gln Gly Ile Ser Pro Ser Asp Leu Val Arg Lys Ala
65 70 75 80

Arg Ser Lys Val Phe His Leu Asn Cys Phe Thr Cys Met Val Cys Asn
85 90 95

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

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

Ser Leu Asn Ser Val Ser Ser Cys Thr Asp Arg Ser Leu Ser Pro Asp
130 135 140

Leu Gln Asp Ala Leu Gln Asp Asp Pro Lys Glu Thr Asp Asn Ser Thr
145 150 155 160

Ser Ser Asp Lys Glu Thr Ala Asn Asn Glu Asn Glu Glu Gln Asn Ser
165 170 175

Gly Thr Lys Arg Arg Gly Pro Arg Thr Thr Ile Lys Ala Lys Gln Leu
180 185 190

Glu Thr Leu Lys Ala Ala Phe Ala Ala Thr Pro Lys Pro Thr Arg His
195 200 205

Ile Arg Glu Gln Leu Ala Gln Glu Thr Gly Leu Asn Met Arg Val Ile
210 215 220

Gln Val Trp Phe Gln Asn Arg Arg Ser Lys Glu Arg Arg Met Lys Gln
225 230 235 240

Leu Ser Ala Leu Gly Ala Arg Arg His Ala Phe Phe Arg Ser Pro Arg
245 250 255

Arg Met Arg Pro Leu Gly Gly Arg Leu Asp Glu Ser Glu Met Leu Gly
260 265 270

Ser Thr Pro Tyr Thr Tyr Tyr Gly Asp Tyr Gln Gly Asp Tyr Tyr Ala
275 280 285

Pro Gly Ser Asn Tyr Asp Phe Phe Ala His Gly Pro Pro Ser Gln Ala
290 295 300

Gln Ser Pro Ala Asp Ser Ser Phe Leu Ala Ala Ser Gly Pro Gly Ser
305 310 315 320

Thr Pro Leu Gly Ala Leu Glu Pro Pro Leu Ala Gly Pro His Ala Ala
325 330 335

Asp Asn Pro Arg Phe Thr Asp Met Ile Ser His Pro Asp Thr Pro Ser
340 345 350

Pro Glu Pro Gly Leu Pro Gly Thr Leu His Pro Met Pro Gly Glu Val
355 360 365

Phe Ser Gly Gly Pro Ser Pro Pro Phe Pro Met Ser Gly Thr Ser Gly
370 375 380

Tyr Ser Gly Pro Leu Ser His Pro Asn Pro Glu Leu Asn Glu Ala Ala
385 390 395 400

Val Trp

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<211> 1914
<212> DNA
<213> Rattus norvegicus

<400> 21
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cgccgccctc cacgccactc tgggcagtgc agtgccaggc cggagagcgt cggaggactt 180

gaccccgaga agtcttggtt gatctgtatc ggactcgacc ctaccgaaga ccacagacca 240

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cctaagggcc caggggcccc aaggaggacg aggcggcccg agccgccggg gcgcgcggct 360

atgatggtgc actgtgccgg ctgtgagcgg cccatcctcg accgctttct gctgaacgtg 420

ctggaccgcg cgtggcatat caaatgtgtt caatgctgcg agtgcaaaac caacctctcg 480

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ttgtctccgg acctccaaga tccgttacag gacgacccca aagagaccga caactcgacc 840

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<210> 22
<211> 402
<212> PRT
<213> Rattus norvegicus

<400> 22

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Cys Glu Cys Lys Thr Asn Leu Ser Glu Lys Cys Phe Ser Arg Glu Gly
35 40 45

Lys Leu Tyr Cys Lys Asn Asp Phe Phe Arg Arg Phe Gly Thr Lys Cys
50 55 60

Ala Gly Cys Ala Gln Gly Ile Ser Pro Ser Asp Leu Val Arg Lys Ala
65 70 75 80

Arg Ser Lys Val Phe His Leu Asn Cys Phe Thr Cys Met Val Cys Asn
85 90 95

Lys Gln Leu Ser Thr Gly Glu Glu Leu Tyr Val Ile Asp Glu Asn Lys

100 105 110

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

Ser Leu Asn Ser Val Ser Ser Cys Thr Asp Arg Ser Leu Ser Pro Asp
130 135 140

Leu Gln Asp Pro Leu Gln Asp Asp Pro Lys Glu Thr Asp Asn Ser Thr
145 150 155 160

Ser Ser Asp Lys Glu Thr Ala Asn Asn Glu Asn Glu Glu Gln Asn Ser
165 170 175

Gly Thr Lys Arg Arg Gly Pro Arg Thr Thr Ile Lys Ala Lys Gln Leu
180 185 190

Glu Thr Leu Lys Ala Ala Phe Ala Ala Thr Pro Lys Pro Thr Arg His
195 200 205

Ile Arg Glu Gln Leu Ala Gln Glu Thr Gly Leu Asn Met Arg Val Ile
210 215 220

Gln Val Trp Phe Gln Asn Arg Arg Ser Lys Glu Arg Arg Met Lys Gln
225 230 235 240

Leu Ser Ala Leu Gly Ala Arg Arg His Ala Phe Phe Arg Ser Pro Arg

245 250 255

Arg Met Arg Pro Leu Gly Gly Arg Leu Asp Glu Ser Glu Met Leu Gly
260 265 270

Ser Thr Pro Tyr Thr Tyr Tyr Gly Asp Tyr Gln Ser Asp Tyr Tyr Ala
275 280 285

Pro Gly Gly Asn Tyr Asp Phe Phe Ala His Gly Pro Pro Ser Gln Ala
290 295 300

Gln Ser Pro Ala Asp Ser Ser Phe Leu Ala Ala Ser Gly Pro Gly Ser
305 310 315 320

Thr Pro Leu Gly Ala Leu Glu Pro Pro Leu Ala Gly Pro His Gly Ala
325 330 335

Asp Asn Pro Arg Phe Thr Asp Met Ile Ser His Pro Asp Thr Pro Ser
340 345 350

Pro Glu Pro Gly Leu Pro Gly Ala Leu His Pro Met Pro Gly Glu Val
355 360 365

Phe Ser Gly Gly Pro Ser Pro Pro Phe Pro Met Ser Gly Thr Ser Gly
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Tyr Ser Gly Pro Leu Ser His Pro Asn Pro Glu Leu Asn Glu Ala Ala

385 390 395 400

Val Trp

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<211> 3660
<212> DNA
<213> Mus musculus

<400> 23
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tggagcggga attccagagt ctcaaagata attttcagga tcaaatgaag agggaattgg 2760

cttatcggga agaaatggtg caacagctgc aaattgtcag agataccttg tgtaacgaac 2820

tggaccagga gaggaaggcc cgctatgcca tccagcagaa attaaaagaa gctcacgacg 2880

ccctgcacca cttctcctgc aagatgctga caccccggca ctgcaccggc aactgctcct 2940

tcaagcctca gctgctgccc tagcgccggc ttggccgcgc ccacgcgccc tcaagccatg 3000

ctgctccttt ctgtaaatac ccgctgcagt ggcggcccag agcgaggaac aagccattag 3060

gacctgaccg ttgtaaatac agccgcccgc ccgccggtcc ccagccgggc tccgttgggt 3120

ttcccattgt aaatactgcc tcgcccctcc tttgaactcc agggcatcag acctcaaggg 3180

gtaaactgga cccaccgggg aaagaaaggg aagaggggag acctcttcta cgacccctcc 3240

cactcgggcc cgagtagggc ctgggacccc gaatgtgaat ataacgtagc atcttcgctg 3300

gctatggccg tgcactcccc gtcctgtcca cttctgaaac tcttgttcct aacgacaacg 3360

tggctatgtg caatggagac aaactggact gtgagtctct tggttcagta ttaggttcac 3420

tttatttata ctgtaagtta ttttacttcc cctgggaccc tttccagtcc tcgttttaca 3480

ttcattcctc tttggatttg ctttgtgatt ttgttgttgt tgatgttgtt gttgttgtgt 3540

aatgtaacag cactttaaaa gggcgacaac tgactcacga gatggcgacc atcttgagcc 3600

tatttgggga gacctgtatc cgtgactttt gtttttaata aaaagaaaaa aaaatctgct 3660

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<212> PRT
<213> Mus musculus

<400> 24

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

Pro Gly Arg Glu Gly Ser Ser Ser Pro Asn Ser Lys Gln Glu Leu Gln
50 55 60

Pro Tyr Ser Gly Ser Ser Ala Leu Lys Pro Asn Gln Val Gly Glu Thr
65 70 75 80

Ser Leu Tyr Gly Val Pro Ile Val Ser Leu Val Ile Asp Gly Gln Glu
85 90 95

Arg Leu Cys Leu Ala Gln Ile Ser Asn Thr Leu Leu Lys Asn Tyr Ser
100 105 110

Tyr Asn Glu Ile His Asn Arg Arg Val Ala Leu Gly Ile Thr Cys Val
115 120 125

Gln Cys Thr Pro Val Gln Leu Glu Ile Leu Arg Arg Ala Gly Ala Met
130 135 140

Pro Ile Ser Ser Arg Arg Cys Gly Met Ile Thr Lys Arg Glu Ala Glu

145 150 155 160

Arg Leu Cys Lys Ser Phe Leu Gly Glu His Lys Pro Pro Lys Leu Pro
165 170 175

Glu Asn Phe Ala Phe Asp Val Val His Glu Cys Ala Trp Gly Ser Arg
180 185 190

Gly Ser Phe Ile Pro Ala Arg Tyr Asn Ser Ser Arg Ala Lys Cys Ile
195 200 205

Lys Cys Gly Tyr Cys Ser Met Tyr Phe Ser Pro Asn Lys Phe Ile Phe
210 215 220

His Ser His Arg Thr Pro Asp Ala Lys Tyr Thr Gln Pro Asp Ala Ala
225 230 235 240

Asn Phe Asn Ser Trp Arg Arg His Leu Lys Leu Ser Asp Lys Ser Ala
245 250 255

Thr Asp Glu Leu Ser His Ala Trp Glu Asp Val Lys Ala Met Phe Asn
260 265 270

Gly Gly Thr Arg Lys Arg Thr Phe Ser Leu Gln Gly Gly Gly Gly Gly
275 280 285

Gly Ala Asn Ser Gly Ser Gly Gly Ala Gly Lys Gly Gly Ala Gly Gly

290 295 300

Gly Gly Gly Pro Gly Cys Gly Ser Glu Met Ala Pro Gly Pro Pro Pro
305 310 315 320

His Lys Ser Leu Arg Cys Gly Glu Asp Glu Ala Ala Gly Pro Pro Gly
325 330 335

Pro Pro Pro Pro His Pro Gln Arg Ala Leu Gly Leu Ala Ala Ala Ala
340 345 350

Ser Gly Pro Ala Gly Pro Gly Gly Pro Gly Gly Ser Ala Gly Val Arg
355 360 365

Ser Tyr Pro Val Ile Pro Val Pro Ser Lys Gly Phe Gly Leu Leu Gln
370 375 380

Lys Leu Pro Pro Pro Leu Phe Pro His Pro Tyr Gly Phe Pro Thr Ala
385 390 395 400

Phe Gly Leu Cys Pro Lys Lys Asp Asp Pro Val Leu Val Ala Gly Glu
405 410 415

Pro Lys Gly Gly Pro Gly Thr Gly Ser Ser Gly Gly Ala Gly Thr Ala
420 425 430

Ala Gly Ala Gly Gly Pro Gly Ala Gly His Leu Pro Pro Gly Ala Gly

435 440 445

Pro Gly Pro Gly Gly Gly Thr Met Phe Trp Gly His Gln Pro Ser Gly
450 455 460

Ala Ala Lys Asp Ala Ala Ala Val Ala Ala Ala Ala Ala Ala Ala Thr
465 470 475 480

Val Tyr Pro Thr Phe Pro Met Phe Trp Pro Ala Ala Gly Ser Leu Pro
485 490 495

Val Pro Pro Tyr Pro Ala Ala Gln Ser Gln Ala Lys Ala Val Ala Ala
500 505 510

Ala Val Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Gly Gly
515 520 525

Gly Pro Glu Ser Leu Asp Gly Ala Glu Pro Ala Lys Glu Gly Ser Leu
530 535 540

Gly Thr Glu Glu Arg Cys Pro Ser Ala Leu Ser Arg Gly Pro Leu Asp
545 550 555 560

Glu Asp Gly Ala Asp Glu Ala Leu Pro Pro Ser Leu Gly Pro Leu Pro
565 570 575

Pro Pro Pro Pro Pro Pro Ala Arg Lys Ser Ser Tyr Val Ser Ala Phe

580 585 590

Arg Pro Val Val Lys Asp Ala Glu Ser Ile Ala Lys Leu Tyr Gly Ser
595 600 605

Ala Arg Glu Ala Tyr Gly Ser Gly Pro Ala Arg Gly Pro Val Pro Gly
610 615 620

Thr Gly Thr Gly Gly Gly Tyr Val Ser Pro Asp Phe Leu Ser Glu Gly
625 630 635 640

Ser Ser Ser Tyr His Ser Ala Ser Pro Asp Val Asp Thr Ala Asp Glu
645 650 655

Pro Glu Val Asp Val Glu Ser Asn Arg Phe Pro Asp Glu Glu Gly Ala
660 665 670

Gln Asp Asp Thr Glu Pro Arg Ala Pro Ser Thr Gly Gly Gly Pro Asp
675 680 685

Gly Asp Gln Pro Ala Gly Pro Pro Ser Val Thr Ser Ser Gly Ala Asp
690 695 700

Gly Pro Thr Asp Ser Ala Asp Gly Asp Ser Pro Arg Pro Arg Arg Arg
705 710 715 720

Leu Gly Pro Pro Pro Ala Ile Arg Ser Ala Phe Gly Asp Leu Val Ala

725 730 735

Asp Asp Val Val Arg Arg Thr Glu Arg Ser Pro Pro Ser Gly Gly Tyr
740 745 750

Glu Leu Arg Glu Pro Cys Gly Pro Leu Gly Gly Pro Gly Ala Ala Lys
755 760 765

Val Tyr Ala Pro Glu Arg Asp Glu His Val Lys Ser Thr Ala Val Ala
770 775 780

Ala Ala Leu Gly Pro Ala Ala Ser Tyr Leu Cys Thr Pro Glu Thr His
785 790 795 800

Glu Pro Asp Lys Glu Asp Asn His Ser Thr Thr Ala Asp Asp Leu Glu
805 810 815

Thr Arg Lys Ser Phe Ser Asp Gln Arg Ser Val Ser Gln Pro Ser Pro
820 825 830

Ala Asn Thr Asp Arg Gly Glu Asp Gly Leu Thr Leu Asp Val Thr Gly
835 840 845

Thr Gln Leu Val Glu Lys Asp Ile Glu Asn Leu Ala Arg Glu Glu Leu
850 855 860

Gln Lys Leu Leu Leu Glu Gln Met Glu Leu Arg Lys Lys Leu Glu Arg

865 870 875 880

Glu Phe Gln Ser Leu Lys Asp Asn Phe Gln Asp Gln Met Lys Arg Glu
885 890 895

Leu Ala Tyr Arg Glu Glu Met Val Gln Gln Leu Gln Ile Val Arg Asp
900 905 910

Thr Leu Cys Asn Glu Leu Asp Gln Glu Arg Lys Ala Arg Tyr Ala Ile
915 920 925

Gln Gln Lys Leu Lys Glu Ala His Asp Ala Leu His His Phe Ser Cys
930 935 940

Lys Met Leu Thr Pro Arg His Cys Thr Gly Asn Cys Ser Phe Lys Pro
945 950 955 960

Gln Leu Leu Pro

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<211> 2634
<212> DNA
<213> Homo sapiens

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gggcgcgagg gcagttcctc gcccaactcc aagcaggagc tgcagccgta ctcgggctcc 180

agcgctctca aacccaacca ggtgggcgag acgtcgctgt acggggtgcc cattgtgtcg 240

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aactacagct ataatgagat ccacaaccgc cgcgtggccc tgggcatcac gtgcgtgcag 360

tgcacgccgg tacagctgga gattctgcgt cgggccgggg ccatgcccat ctcgtcgcgc 420

cgctgcggca tgatcactaa gcgagaggcc gaacgcctgt gcaagtcgtt cctgggcgag 480

cacaaaccac ccaagctgcc cgagaacttc gccttcgatg tggtgcacga gtgcgcgtgg 540

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cccgacgcca agtacacgca gcccgatgcc gccaacttca actcctggcg tcgtcacctc 720

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aattttcagg atcaaatgaa gagggaattg gcttatcgag aagaaatggt gcaacagctg 2460

caaattgtca gagataccct gtgtaacgaa ctcgaccagg agcggaaggc gcgctatgcc 2520

atccagcaga aattgaaaga agcccacgac gccctgcacc atttctcctg caagatgctg 2580

acgccccgcc actgcactgg caactgctcc ttcaagccac cgctgttgcc ctag 2634

<210> 26
<211> 877
<212> PRT
<213> Homo sapiens

<400> 26

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20 25 30

Ala Leu Thr Thr Gln Leu Gly Pro Gly Arg Glu Gly Ser Ser Ser Pro
35 40 45

Asn Ser Lys Gln Glu Leu Gln Pro Tyr Ser Gly Ser Ser Ala Leu Lys
50 55 60

Pro Asn Gln Val Gly Glu Thr Ser Leu Tyr Gly Val Pro Ile Val Ser
65 70 75 80

Leu Val Ile Asp Gly Gln Glu Arg Leu Cys Leu Ala Gln Ile Ser Asn
85 90 95

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

Ala Leu Gly Ile Thr Cys Val Gln Cys Thr Pro Val Gln Leu Glu Ile
115 120 125

Leu Arg Arg Ala Gly Ala Met Pro Ile Ser Ser Arg Arg Cys Gly Met
130 135 140

Ile Thr Lys Arg Glu Ala Glu Arg Leu Cys Lys Ser Phe Leu Gly Glu
145 150 155 160

His Lys Pro Pro Lys Leu Pro Glu Asn Phe Ala Phe Asp Val Val His
165 170 175

Glu Cys Ala Trp Gly Ser Arg Gly Ser Phe Ile Pro Ala Arg Tyr Asn
180 185 190

Ser Ser Arg Ala Lys Cys Ile Lys Cys Gly Tyr Cys Ser Met Tyr Phe
195 200 205

Ser Pro Asn Lys Phe Ile Phe His Ser His Arg Thr Pro Asp Ala Lys
210 215 220

Tyr Thr Gln Pro Asp Ala Ala Asn Phe Asn Ser Trp Arg Arg His Leu
225 230 235 240

Lys Leu Ser Asp Lys Ser Ala Thr Asp Glu Leu Ser His Ala Trp Glu
245 250 255

Asp Arg Gly Leu Gly Leu Ala Thr Gly Ala Ser Gly Pro Ala Gly Pro
260 265 270

Gly Gly Pro Gly Gly Gly Ala Gly Val Arg Ser Tyr Pro Val Ile Pro
275 280 285

Val Pro Ser Lys Gly Phe Gly Leu Leu Gln Lys Leu Pro Pro Pro Leu
290 295 300

Phe Pro His Pro Tyr Gly Phe Pro Thr Ala Phe Gly Leu Cys Pro Lys
305 310 315 320

Lys Asp Asp Pro Val Leu Gly Ala Gly Glu Pro Lys Gly Gly Pro Gly
325 330 335

Thr Gly Ser Gly Gly Gly Gly Ala Gly Thr Gly Gly Gly Ala Gly Gly
340 345 350

Pro Gly Ala Ser His Leu Pro Pro Gly Ala Gly Ala Gly Pro Gly Gly
355 360 365

Gly Ala Met Phe Trp Gly His Gln Pro Ser Gly Ala Ala Lys Asp Ala
370 375 380

Ala Ala Val Ala Ala Ala Ala Ala Ala Ala Thr Val Tyr Pro Thr Phe
385 390 395 400

Pro Met Phe Trp Pro Ala Ala Gly Ser Leu Pro Val Pro Ser Tyr Pro
405 410 415

Ala Ala Gln Ser Gln Ala Lys Ala Val Ala Ala Ala Val Ala Ala Ala
420 425 430

Ala Ala Ala Ala Ala Ala Ala Ala Gly Ser Gly Ala Pro Glu Pro Leu
435 440 445

Asp Gly Ala Glu Pro Ala Lys Glu Ser Gly Leu Gly Ala Glu Glu Arg
450 455 460

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

Glu Ala Leu Pro Pro Pro Leu Ala Pro Leu Pro Pro Pro Pro Pro Pro
485 490 495

Pro Ala Arg Lys Gly Ser Tyr Val Ser Ala Phe Arg Pro Val Val Lys
500 505 510

Asp Thr Glu Ser Ile Ala Lys Leu Tyr Gly Ser Ala Arg Glu Ala Tyr
515 520 525

Gly Ala Gly Pro Ala Arg Gly Pro Gly Pro Gly Ala Gly Ser Gly Gly
530 535 540

Tyr Val Ser Pro Asp Phe Leu Ser Glu Gly Ser Ser Ser Tyr Asn Ser
545 550 555 560

Ala Ser Pro Asp Val Asp Thr Ala Asp Glu Pro Glu Val Asp Val Glu
565 570 575

Ser Asn Arg Phe Pro Asp Asp Glu Asp Ala Gln Glu Glu Thr Glu Pro
580 585 590

Ser Ala Pro Ser Ala Gly Gly Gly Pro Asp Gly Glu Gln Pro Thr Gly
595 600 605

Pro Pro Ser Ala Thr Ser Ser Gly Ala Asp Gly Pro Ala Asn Ser Pro
610 615 620

Asp Gly Gly Ser Pro Arg Pro Arg Arg Arg Leu Gly Pro Pro Pro Ala
625 630 635 640

Gly Arg Pro Ala Phe Gly Asp Leu Ala Ala Glu Asp Leu Val Arg Arg
645 650 655

Pro Glu Arg Ser Pro Pro Ser Gly Gly Gly Gly Tyr Glu Leu Arg Glu
660 665 670

Pro Cys Gly Pro Leu Gly Gly Pro Ala Pro Ala Lys Val Phe Ala Pro
675 680 685

Glu Arg Asp Glu His Val Lys Ser Ala Ala Val Ala Leu Gly Pro Ala
690 695 700

Ala Ser Tyr Val Cys Thr Pro Glu Ala His Glu Pro Asp Lys Glu Asp
705 710 715 720

Asn His Ser Pro Ala Asp Asp Leu Glu Thr Arg Lys Ser Tyr Pro Asp
725 730 735

Gln Arg Ser Ile Ser Gln Pro Ser Pro Ala Asn Thr Asp Arg Gly Glu
740 745 750

Asp Gly Leu Thr Leu Asp Val Thr Gly Thr His Leu Val Glu Lys Asp
755 760 765

Ile Glu Asn Leu Ala Arg Glu Glu Leu Gln Lys Leu Leu Leu Glu Gln
770 775 780

Met Glu Leu Arg Lys Lys Leu Glu Arg Glu Phe Gln Ser Leu Lys Asp
785 790 795 800

Asn Phe Gln Asp Gln Met Lys Arg Glu Leu Ala Tyr Arg Glu Glu Met
805 810 815

Val Gln Gln Leu Gln Ile Val Arg Asp Thr Leu Cys Asn Glu Leu Asp
820 825 830

Gln Glu Arg Lys Ala Arg Tyr Ala Ile Gln Gln Lys Leu Lys Glu Ala
835 840 845

His Asp Ala Leu His His Phe Ser Cys Lys Met Leu Thr Pro Arg His
850 855 860

Cys Thr Gly Asn Cys Ser Phe Lys Pro Pro Leu Leu Pro
865 870 875

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<211> 2895
<212> DNA
<213> Rattus norvegicus

<400> 27
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ccgctgttgc cctag 2895

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<213> Rattus norvegicus

<400> 28

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

Pro Gly Arg Glu Gly Ser Ser Ser Pro Asn Ser Lys Gln Glu Leu Gln
50 55 60

Pro Tyr Ser Gly Ser Ser Ala Leu Lys Pro Asn Gln Val Gly Glu Thr
65 70 75 80

Ser Leu Tyr Gly Val Pro Ile Val Ser Leu Val Ile Asp Gly Gln Glu
85 90 95

Arg Leu Cys Leu Ala Gln Ile Ser Asn Thr Leu Leu Lys Asn Tyr Ser
100 105 110

Tyr Asn Glu Ile His Asn Arg Arg Val Ala Leu Gly Ile Thr Cys Val
115 120 125

Gln Cys Thr Pro Val Gln Leu Glu Ile Leu Arg Arg Ala Gly Ala Met
130 135 140

Pro Ile Ser Ser Arg Arg Cys Gly Met Ile Thr Lys Arg Glu Ala Glu
145 150 155 160

Arg Leu Cys Lys Ser Phe Leu Gly Glu His Lys Pro Pro Lys Leu Pro
165 170 175

Glu Asn Phe Ala Phe Asp Val Val His Glu Cys Ala Trp Gly Ser Arg
180 185 190

Gly Ser Phe Ile Pro Ala Arg Tyr Asn Ser Ser Arg Ala Lys Cys Ile
195 200 205

Lys Cys Gly Tyr Cys Ser Met Tyr Phe Ser Pro Asn Lys Phe Ile Phe
210 215 220

His Ser His Arg Thr Pro Asp Ala Lys Tyr Thr Gln Pro Asp Ala Ala
225 230 235 240

Asn Phe Asn Ser Trp Arg Arg His Leu Lys Leu Ser Asp Lys Ser Ala
245 250 255

Thr Asp Glu Leu Ser His Ala Trp Glu Asp Val Lys Ala Met Phe Asn
260 265 270

Gly Gly Thr Arg Lys Arg Thr Phe Ser Leu Gln Gly Gly Gly Gly Gly
275 280 285

Gly Ala Asn Ser Gly Ser Gly Gly Ala Gly Lys Gly Gly Ala Gly Gly
290 295 300

Gly Gly Gly Pro Gly Cys Gly Ser Glu Met Ala Pro Gly Pro Pro Pro
305 310 315 320

His Lys Ser Leu Arg Cys Gly Glu Asp Glu Ala Ser Gly Pro Pro Gly
325 330 335

Pro Pro Pro Pro His Pro Gln Arg Ala Leu Gly Leu Ala Ala Ala Ala
340 345 350

Asn Gly Pro Ala Gly Pro Gly Gly Pro Gly Gly Ser Ala Gly Val Arg
355 360 365

Ser Tyr Pro Val Ile Pro Val Pro Ser Lys Gly Phe Gly Leu Leu Gln
370 375 380

Lys Leu Pro Pro Pro Leu Phe Pro His Pro Tyr Gly Phe Pro Thr Ala
385 390 395 400

Phe Gly Leu Cys Pro Lys Lys Asp Asp Pro Val Leu Val Ala Gly Glu
405 410 415

Pro Lys Gly Gly Pro Gly Thr Gly Ser Gly Gly Gly Ala Gly Thr Ala
420 425 430

Ala Gly Ala Gly Gly Pro Gly Ala Gly His Leu Pro Pro Gly Ala Gly
435 440 445

Pro Gly Pro Gly Gly Gly Thr Met Phe Trp Gly His Gln Pro Ser Gly
450 455 460

Ala Ala Lys Asp Ala Ala Ala Val Ala Ala Ala Ala Ala Ala Ala Thr
465 470 475 480

Val Tyr Pro Thr Phe Pro Met Phe Trp Pro Ala Ala Gly Ser Leu Pro
485 490 495

Val Pro Pro Tyr Pro Ala Ala Gln Ser Gln Ala Lys Ala Val Ala Ala
500 505 510

Ala Val Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Gly Gly
515 520 525

Gly Pro Glu Ser Leu Asp Gly Ala Glu Pro Ala Lys Glu Gly Ser Leu
530 535 540

Gly Thr Glu Glu Arg Cys Pro Ser Ala Leu Ser Arg Gly Pro Leu Asp
545 550 555 560

Glu Asp Gly Ala Asp Glu Ala Leu Pro Pro Ser Leu Ala Pro Leu Ala
565 570 575

Pro Pro Pro Pro Pro Pro Ala Arg Lys Ser Ser Tyr Val Ser Ala Phe
580 585 590

Arg Pro Val Val Lys Asp Ala Glu Ser Ile Ala Lys Leu Tyr Gly Ser
595 600 605

Ala Arg Glu Ala Tyr Gly Ser Gly Pro Ala Arg Gly Pro Val Pro Gly
610 615 620

Thr Gly Thr Gly Gly Gly Tyr Val Ser Pro Asp Phe Leu Ser Glu Gly
625 630 635 640

Ser Ser Ser Tyr His Ser Ala Ser Pro Asp Val Asp Thr Ala Asp Glu
645 650 655

Pro Glu Val Asp Val Glu Ser Asn Arg Phe Pro Asp Glu Glu Gly Ala
660 665 670

Gln Glu Asp Thr Glu Pro Ser Val Pro Ser Thr Gly Gly Gly Pro Asp
675 680 685

Gly Asp Gln Pro Ala Gly Pro Pro Ser Val Thr Ser Ser Gly Ala Asp
690 695 700

Gly Pro Thr Asp Ser Ala Asp Gly Asp Ser Pro Arg Pro Arg Arg Arg
705 710 715 720

Leu Gly Pro Pro Pro Ala Ile Arg Ser Ala Phe Gly Asp Leu Val Ala
725 730 735

Asp Asp Val Val Arg Arg Thr Glu Arg Ser Pro Pro Asn Gly Gly Tyr
740 745 750

Glu Leu Arg Glu Pro Cys Gly Pro Leu Gly Gly Pro Ala Ala Ala Lys
755 760 765

Val Tyr Val Pro Glu Arg Asp Glu His Val Lys Ser Ala Ala Ala Ala
770 775 780

Ala Ala Leu Gly Pro Ala Ala Ser Tyr Leu Cys Thr Pro Glu Thr His
785 790 795 800

Glu Pro Asp Lys Glu Asp Asn His Ser Thr Thr Ala Asp Asp Leu Glu
805 810 815

Thr Arg Lys Ser Phe Ser Asp Gln Arg Ser Val Ser Gln Pro Ser Pro
820 825 830

Ala Asn Thr Asp Arg Gly Glu Asp Gly Leu Thr Leu Asp Val Thr Gly
835 840 845

Thr Gln Leu Val Glu Lys Asp Ile Glu Asn Leu Ala Arg Glu Glu Leu
850 855 860

Gln Lys Leu Leu Leu Glu Gln Met Glu Leu Arg Lys Lys Leu Glu Arg
865 870 875 880

Glu Phe Gln Ser Leu Lys Asp Asn Phe Gln Asp Gln Met Lys Arg Glu
885 890 895

Leu Ala Tyr Arg Glu Glu Met Val Gln Gln Leu Gln Ile Val Arg Asp
900 905 910

Thr Leu Cys Asn Glu Leu Asp Gln Glu Arg Lys Ala Arg Tyr Ala Ile
915 920 925

Gln Gln Lys Leu Lys Glu Ala His Asp Ala Leu His His Phe Ser Cys
930 935 940

Lys Met Leu Thr Pro Arg His Cys Thr Gly Asn Cys Ser Phe Lys Pro
945 950 955 960

Pro Leu Leu Pro

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gatcttcgct cagctcgcct gagtcccgcc cgctggattc gaggacccgc ttggatgctt 240

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gcgcccatct cagcaaaagc taaaaggcga cagacccact cactcttgtt ctgtaagata 3420

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aaaaaaaaaa aaaaaa 4156

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<212> PRT
<213> Mus musculus

<400> 30

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His Ala Asn Leu Lys Pro Asn Gln Val Gly Gln Val Ile Leu Tyr Gly
35 40 45

Ile Pro Ile Val Ser Leu Val Ile Asp Gly Gln Glu Arg Leu Cys Leu
50 55 60

Ala Gln Ile Ser Asn Thr Leu Leu Lys Asn Phe Ser Tyr Asn Glu Ile
65 70 75 80

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

Val Gln Leu Glu Ile Leu Arg Arg Ala Gly Ala Met Pro Ile Ser Ser
100 105 110

Arg Arg Cys Gly Met Ile Thr Lys Arg Glu Ala Glu Arg Leu Cys Lys
115 120 125

Ser Phe Leu Gly Glu Asn Arg Pro Pro Lys Leu Pro Asp Asn Phe Ala
130 135 140

Phe Asp Val Ser His Glu Cys Ala Trp Gly Cys Arg Gly Ser Phe Ile
145 150 155 160

Pro Ala Arg Tyr Asn Ser Ser Arg Ala Lys Cys Ile Lys Cys Ser Tyr

165 170 175

Cys Asn Met Tyr Phe Ser Pro Asn Lys Phe Ile Phe His Ser His Arg
180 185 190

Thr Pro Asp Ala Lys Tyr Thr Gln Pro Asp Ala Ala Asn Phe Asn Ser
195 200 205

Trp Arg Arg His Leu Lys Leu Thr Asp Lys Ser Pro Gln Asp Glu Leu
210 215 220

Val Phe Ala Trp Glu Asp Val Lys Ala Met Phe Asn Gly Gly Ser Arg
225 230 235 240

Lys Arg Ala Leu Pro Gln Pro Ser Ala His Pro Ala Cys His Pro Leu
245 250 255

Ser Ser Val Lys Ala Ala Ala Val Ala Ala Ala Ala Ala Val Ala Gly
260 265 270

Gly Gly Gly Leu Leu Gly Pro His Leu Leu Gly Ala Pro Pro Pro Pro
275 280 285

Pro Pro Pro Pro Pro Leu Ala Glu Leu Ala Gly Ala Pro His Ala His
290 295 300

His Lys Arg Pro Arg Phe Asp Asp Asp Asp Asp Ser Leu Gln Glu Ala

305 310 315 320

Ala Val Val Ala Ala Ala Ser Leu Ser Ala Ala Ala Ala Ser Leu Ser
325 330 335

Val Ala Ala Ala Thr Gly Gly Ala Gly Pro Gly Ala Gly Gly Pro Gly
340 345 350

Gly Gly Cys Val Ala Gly Val Gly Val Gly Ala Ser Ala Gly Ala Gly
355 360 365

Ala Ala Ala Gly Thr Lys Gly Pro Arg Ser Tyr Pro Val Ile Pro Val
370 375 380

Pro Ser Lys Gly Ser Phe Gly Gly Val Leu Gln Lys Phe Pro Gly Cys
385 390 395 400

Gly Gly Leu Phe Pro His Pro Tyr Thr Phe Pro Ala Ala Ala Ala Ala
405 410 415

Phe Gly Leu Cys His Lys Lys Glu Asp Ala Gly Thr Ala Ala Glu Ala
420 425 430

Leu Gly Gly Ala Gly Ala Gly Ser Ala Gly Ala Ala Pro Lys Ala Gly
435 440 445

Leu Ser Gly Leu Phe Trp Pro Ala Gly Arg Lys Asp Ala Phe Tyr Pro

450 455 460

Pro Phe Cys Met Phe Trp Pro Pro Arg Thr Pro Gly Gly Leu Pro Val
465 470 475 480

Pro Thr Tyr Leu Gln Pro Pro Pro Gln Pro Pro Ser Ala Leu Gly Cys
485 490 495

Ala Leu Gly Asp Ser Pro Ala Leu Leu Arg Gln Ala Phe Leu Asp Leu
500 505 510

Ala Glu Pro Gly Gly Ala Gly Gly Ser Ala Glu Ala Ala Pro Pro Pro
515 520 525

Gly Gln Pro Pro Pro Val Val Ala Asn Gly Pro Gly Ser Gly Pro Pro
530 535 540

Ala Thr Gly Gly Thr Gly Ala Arg Asp Thr Leu Phe Glu Ser Pro Pro
545 550 555 560

Gly Gly Ser Gly Gly Asp Cys Ser Ala Gly Ser Thr Pro Pro Ala Glu
565 570 575

Gln Gly Val Thr Ser Gly Thr Gly Ser Ala Ser Ser Gly Ala Gly Ser
580 585 590

Val Gly Thr Arg Val Pro Ala Pro His His Pro His Leu Leu Glu Gly

595 600 605

Arg Lys Ala Gly Gly Gly Ser Tyr His His Ser Ser Ala Phe Arg Pro
610 615 620

Val Gly Gly Lys Asp Asp Ala Glu Ser Leu Ala Lys Leu His Gly Ala
625 630 635 640

Ser Ala Gly Thr Pro His Ser Ala Pro Ala His His His His His His
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His His Pro His His His His His His Pro Pro Gln Pro Pro Ser Pro
660 665 670

Leu Leu Leu Leu Gln Pro Gln Pro Asp Glu Pro Gly Ser Glu Arg His
675 680 685

His Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro Pro Leu Ala Pro Gln
690 695 700

Pro His His Arg Gly Leu Leu Ser Pro Glu Gly Thr Ser Cys Ser Tyr
705 710 715 720

Pro Ser Glu Asp Ser Ser Glu Asp Glu Glu Asp Glu Glu Glu Glu Gln
725 730 735

Glu Val Asp Val Glu Gly His Lys Pro Leu Glu Gly Glu Glu Glu Glu

740 745 750

Asp Gly Arg Asp Pro Glu Asp Glu Glu Glu Glu Asp Glu Glu Thr Arg
755 760 765

Val Leu Leu Gly Asp Ser Leu Val Gly Gly Gly Arg Phe Leu Gln Gly
770 775 780

Arg Gly Leu Ser Glu Lys Gly Ser Gly Arg Asp Arg Thr Thr Pro Ala
785 790 795 800

Val Gly Ala Phe Pro Leu Ala Leu Asn Ser Ser Arg Leu Leu Gln Glu
805 810 815

Asp Gly Lys Leu Gly Asp Ser Gly Gly Ser Asp Leu Pro Ala Pro Pro
820 825 830

Pro Pro Pro Leu Ala Pro Gln Lys Ala Ser Ser Ser Gly Gly Ser Arg
835 840 845

Pro Gly Ser Pro Val His His Pro Ser Leu Glu Glu Glu Pro Ser Tyr
850 855 860

Lys Asp Asn Gln Lys Pro Lys Glu Asn Asn Gln Val Ile Ile Ser Thr
865 870 875 880

Lys Asp Asp Asn Phe Ser Asp Lys Asn Lys Gly His Gly Phe Phe Ile

885 890 895

Thr Asp Ser Asp Ser Ser Gly Asp Phe Trp Arg Glu Arg Ser Gly Glu
900 905 910

His Thr Gln Glu Thr Asn Ser Pro His Ser Leu Lys Lys Asp Val Glu
915 920 925

Asn Met Gly Lys Glu Glu Leu Gln Lys Val Leu Phe Glu Gln Ile Asp
930 935 940

Leu Arg Arg Arg Leu Glu Gln Glu Phe Gln Val Leu Lys Gly Asn Thr
945 950 955 960

Ser Phe Pro Val Phe Asn Asn Phe Gln Asp Gln Met Lys Arg Glu Leu
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Ala Tyr Arg Glu Glu Met Val Gln Gln Leu Gln Ile Ile Pro Tyr Ala
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Ala Ser Leu Ile Arg Lys Glu Lys Leu Gly Ala His Leu Ser Lys Ser
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<211> 3045
<212> DNA
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<400> 31

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<400> 32

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His Ala Asn Leu Lys Pro Asn Gln Val Gly Gln Val Ile Leu Tyr Gly
35 40 45

Ile Pro Ile Val Ser Leu Val Ile Asp Gly Gln Glu Arg Leu Cys Leu
50 55 60

Ala Gln Ile Ser Asn Thr Leu Leu Lys Asn Phe Ser Tyr Asn Glu Ile
65 70 75 80

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

Val Gln Leu Glu Ile Leu Arg Arg Ala Gly Ala Met Pro Ile Ser Ser
100 105 110

Arg Arg Cys Gly Met Ile Thr Lys Arg Glu Ala Glu Arg Leu Cys Lys
115 120 125

Ser Phe Leu Gly Glu Asn Arg Pro Pro Lys Leu Pro Asp Asn Phe Ala

130 135 140

Phe Asp Val Ser His Glu Cys Ala Trp Gly Cys Arg Gly Ser Phe Ile
145 150 155 160

Pro Ala Arg Tyr Asn Ser Ser Arg Ala Lys Cys Ile Lys Cys Ser Tyr
165 170 175

Cys Asn Met Tyr Phe Ser Pro Asn Lys Phe Ile Phe His Ser His Arg
180 185 190

Thr Pro Asp Ala Lys Tyr Thr Gln Pro Asp Ala Ala Asn Phe Asn Ser
195 200 205

Trp Arg Arg His Leu Lys Leu Thr Asp Lys Ser Pro Gln Asp Glu Leu
210 215 220

Val Phe Ala Trp Glu Asp Val Lys Ala Met Phe Asn Gly Gly Ser Arg
225 230 235 240

Lys Arg Ala Leu Pro Gln Pro Gly Ala His Pro Ala Cys His Pro Leu
245 250 255

Ser Ser Val Lys Ala Ala Ala Val Ala Ala Ala Ala Ala Val Ala Gly
260 265 270

Gly Gly Gly Leu Leu Gly Pro His Leu Leu Gly Ala Pro Pro Pro Pro

275 280 285

Pro Pro Pro Pro Pro Pro Leu Ala Glu Leu Ala Gly Ala Pro His Ala
290 295 300

His His Lys Arg Pro Arg Phe Asp Asp Asp Asp Asp Ser Leu Gln Glu
305 310 315 320

Ala Ala Val Val Ala Ala Ala Ser Leu Ser Ala Ala Ala Ala Ser Leu
325 330 335

Ser Val Ala Ala Ala Ser Gly Gly Ala Gly Thr Gly Gly Gly Gly Ala
340 345 350

Gly Gly Gly Cys Val Ala Gly Val Gly Val Gly Ala Gly Ala Gly Ala
355 360 365

Gly Ala Gly Ala Gly Ala Lys Gly Pro Arg Ser Tyr Pro Val Ile Pro
370 375 380

Val Pro Ser Lys Gly Ser Phe Gly Gly Val Leu Gln Lys Phe Pro Gly
385 390 395 400

Cys Gly Gly Leu Phe Pro His Pro Tyr Thr Phe Pro Ala Ala Ala Ala
405 410 415

Ala Phe Ser Leu Cys His Lys Lys Glu Asp Ala Gly Ala Ala Ala Glu

420 425 430

Ala Leu Gly Gly Ala Gly Ala Gly Gly Ala Gly Ala Ala Pro Lys Ala
435 440 445

Gly Leu Ser Gly Leu Phe Trp Pro Ala Gly Arg Lys Asp Ala Phe Tyr
450 455 460

Pro Pro Phe Cys Met Phe Trp Pro Pro Arg Thr Pro Gly Gly Leu Pro
465 470 475 480

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

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

Leu Ala Glu Pro Gly Gly Ala Ala Gly Ser Ala Glu Ala Ala Pro Pro
515 520 525

Pro Gly Gln Pro Pro Gln Val Val Ala Asn Gly Pro Gly Ser Gly Pro
530 535 540

Pro Pro Pro Ala Gly Gly Ala Gly Ser Arg Asp Ala Leu Phe Glu Ser
545 550 555 560

Pro Pro Gly Gly Ser Gly Gly Asp Cys Ser Ala Gly Ser Thr Pro Pro

565 570 575

Ala Asp Ser Val Ala Ala Ala Gly Ala Gly Ala Ala Ala Ala Gly Ser
580 585 590

Gly Pro Ala Gly Ser Arg Val Pro Ala Pro His His Pro His Leu Leu
595 600 605

Glu Gly Arg Lys Ala Gly Gly Gly Ser Tyr His His Ser Ser Ala Phe
610 615 620

Arg Pro Val Gly Gly Lys Asp Asp Ala Glu Ser Leu Ala Lys Leu His
625 630 635 640

Gly Ala Ser Ala Gly Ala Pro His Ser Ala Gln Thr His Pro His His
645 650 655

His His His Pro His His His His His His His His Pro Pro Gln Pro
660 665 670

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

Glu Arg His His Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro Pro Pro
690 695 700

Pro Pro Leu Ala Gln His Pro His His Arg Gly Leu Leu Ser Pro Gly

705 710 715 720

Gly Thr Ser Cys Cys Tyr Pro Ser Glu Asp Ser Ser Glu Asp Glu Asp
725 730 735

Asp Glu Glu Glu Glu Gln Glu Val Asp Val Glu Gly His Lys Pro Pro
740 745 750

Glu Gly Glu Glu Glu Glu Glu Gly Arg Asp Pro Asp Asp Asp Glu Glu
755 760 765

Glu Asp Glu Glu Thr Glu Val Leu Leu Gly Asp Pro Leu Val Gly Gly
770 775 780

Gly Arg Phe Leu Gln Gly Arg Gly Pro Ser Glu Lys Gly Ser Ser Arg
785 790 795 800

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

Ser Arg Leu Leu Gln Glu Asp Gly Lys Leu Gly Asp Pro Gly Ser Asp
820 825 830

Leu Pro Pro Pro Pro Pro Pro Pro Leu Ala Pro Gln Lys Ala Ser Gly
835 840 845

Gly Gly Ser Ser Ser Pro Gly Ser Pro Val His His Pro Ser Leu Glu

850 855 860

Glu Gln Pro Ser Tyr Lys Asp Ser Gln Lys Thr Lys Glu Asn Asn Gln
865 870 875 880

Val Ile Val Ser Thr Lys Asp Asp Asn Val Leu Asp Lys Asn Lys Glu
885 890 895

His Ser Phe Phe Ile Thr Asp Ser Asp Ala Ser Gly Gly Asp Phe Trp
900 905 910

Arg Glu Arg Ser Gly Glu His Thr Gln Glu Thr Asn Ser Pro His Ser
915 920 925

Leu Lys Lys Asp Val Glu Asn Met Gly Lys Glu Glu Leu Gln Lys Val
930 935 940

Leu Phe Glu Gln Ile Asp Leu Arg Arg Arg Leu Glu Gln Glu Phe Gln
945 950 955 960

Val Leu Lys Gly Asn Thr Ser Phe Pro Val Phe Asn Asn Phe Gln Asp
965 970 975

Gln Met Lys Arg Glu Leu Ala Tyr Arg Glu Glu Met Val Gln Gln Leu
980 985 990

Gln Ile Ile Pro Tyr Ala Ala Ser Leu Ile Arg Lys Glu Lys Leu Gly

995 1000 1005

Ala His Leu Ser Lys Ser
1010

<210> 33
<211> 3123
<212> DNA
<213> Mus musculus

<400> 33
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gactcgggct gagcaagttt cttccattcc cttctctcct ccctccaccc ccttctcctc 180

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gaataggatt cctcccgcct agtgggtccc tcgcagtcct agggttgcaa cccttgagcg 480

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agaaagaagt tggaggggaa ccagtgcaac cctaactctg cgagatcttg gggtacacac 660

actcgggatg ctggcctccg ccctcctcgt tttcctttgc tgtttcaaag gacatgcagg 720

ctcatcgccc catttcctac aacagccaga ggacatggtg gtgctgttgg gggaggaagc 780

ccggctgccc tgcgctctgg gcgcgtacag ggggctcgtg cagtggacta aggatgggct 840

ggctctaggg ggcgaaagag accttccagg gtggtcccgg tactggatat cggggaattc 900

agccagtggc cagcatgacc tccacattaa gcctgtggaa ttggaagatg aggcatcgta 960

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tgccactttc ctgactgagc cggtgtcctg cgaggtcagc aacgcggtcg gaagcgccaa 1560

ccgcagcacc gcgctggaag tgttgtatgg acccattctg caggcaaaac ctaagtccgt 1620

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caaagtggat tctccaagtg ggagcaatat ggccgctttc ccatgagaaa gacattcaag 3000

atggtgacta aatgactaaa tactttgcag agggacaaag atgggaacta gggatatgga 3060

tggaagtagt agagaagata tatgaccatc tgcatcaaga gaaaggataa cataagacaa 3120

atc 3123

<210> 34
<211> 700
<212> PRT
<213> Mus musculus

<400> 34

Met Leu Ala Ser Ala Leu Leu Val Phe Leu Cys Cys Phe Lys Gly His
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Ala Gly Ser Ser Pro His Phe Leu Gln Gln Pro Glu Asp Met Val Val
20 25 30

Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly Ala Tyr Arg
35 40 45

Gly Leu Val Gln Trp Thr Lys Asp Gly Leu Ala Leu Gly Gly Glu Arg
50 55 60

Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ser Ala Ser

65 70 75 80

Gly Gln His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala
85 90 95

Ser Tyr Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala
100 105 110

Gln Leu His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly
115 120 125

Pro Ser Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg
130 135 140

Ser Arg Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp
145 150 155 160

Gly Ile Arg Leu Asp Gly Ser Ser Phe His Gln Thr Thr Leu Lys Asp
165 170 175

Lys Ala Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser
180 185 190

His Asp Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu
195 200 205

Pro Thr Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro

210 215 220

Met Val Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys
225 230 235 240

Val Thr Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr
245 250 255

Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg
260 265 270

Leu Glu Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys
275 280 285

Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu
290 295 300

Val Leu Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val
305 310 315 320

Asp Val Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro
325 330 335

Leu Pro Arg Ile Thr Trp Thr Arg Met Gly Gly Ser Gln Val Leu Ser
340 345 350

Ser Gly Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly

355 360 365

Asp Tyr Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly
370 375 380

Lys Ala Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala
385 390 395 400

Leu Gln Pro Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys
405 410 415

Val Val Phe Ala Ser Pro Ala Pro Asp Ser Val Val Trp Ser Trp Asp
420 425 430

Glu Gly Phe Leu Glu Ala Gly Ser Leu Gly Arg Phe Leu Val Glu Ala
435 440 445

Phe Pro Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser
450 455 460

Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe
465 470 475 480

Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His
485 490 495

Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala

500 505 510

Ala Ser Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu
515 520 525

Cys Cys Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg
530 535 540

Ile Pro Gly Ser Ser Glu Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu
545 550 555 560

Thr Gly Ser Ser Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser
565 570 575

Asp Leu Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr
580 585 590

Asn Gly Tyr Tyr Arg Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly
595 600 605

Glu Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly
610 615 620

Leu Pro Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Leu Asp Leu
625 630 635 640

Val Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr

645 650 655

Pro His Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly
660 665 670

Pro Pro Glu Leu Ser Ser Gly Thr Pro Pro Phe Pro Tyr Ala Thr Leu
675 680 685

Ser Pro Pro Ser His Gln Arg Leu Gln Thr His Val
690 695 700

<210> 35
<211> 2847
<212> DNA
<213> Mus musculus

<400> 35
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caagaaagaa gttggagggg aaccagtgca accctaactc tgcgagatct tggggtacac 120

acactcggga tgctggcctc cgccctcctc gttttccttt gctgtttcaa aggacatgca 180

ggctcatcgc cccatttcct acaacagcca gaggacatgg tggtgctgtt gggggaggaa 240

gcccggctgc cctgcgctct gggcgcgtac agggggctcg tgcagtggac taaggatggg 300

ctggctctag ggggcgaaag agaccttcca gggtggtccc ggtactggat atcggggaat 360

tcagccagtg gccagcatga cctccacatt aagcctgtgg aattggaaga tgaggcatcg 420

tatgagtgcc aggcttcgca agcaggtctc cgatcacgac cagcccaact gcacgtgatg 480

gtccccccag aagctcccca ggtactaggc ggcccctctg tgtctctggt tgctggagtt 540

cctggaaatc tgacctgtcg gagtcgtggg gattcacgac ctgcccctga actactgtgg 600

ttccgagatg ggatccggct ggatgggagc agcttccacc agaccacgct gaaggacaag 660

gccactggaa cagtggaaaa caccttattc ctgaccccct ccagtcatga tgatggtgcc 720

accttgatct gcagagcgcg aagccaggcc ctgcccacag ggagggacac agctgttaca 780

ctgagccttc agtatccccc aatggtgact ctgtctgctg agccccagac tgtgcaggag 840

ggagagaagg tgactttcct gtgtcaagcc actgcccagc ctcctgtcac tggctacagg 900

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ggggactctt gggctaagaa tacttatgtt taataataaa agggggaggc aaagaaaaaa 2820

aaaaaaaaaa aaaaaaaaaa aaaaaaa 2847

<210> 36
<211> 700
<212> PRT
<213> Mus musculus

<400> 36

Met Leu Ala Ser Ala Leu Leu Val Phe Leu Cys Cys Phe Lys Gly His
1 5 10 15

Ala Gly Ser Ser Pro His Phe Leu Gln Gln Pro Glu Asp Met Val Val
20 25 30

Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly Ala Tyr Arg
35 40 45

Gly Leu Val Gln Trp Thr Lys Asp Gly Leu Ala Leu Gly Gly Glu Arg
50 55 60

Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ser Ala Ser
65 70 75 80

Gly Gln His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala
85 90 95

Ser Tyr Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala
100 105 110

Gln Leu His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly
115 120 125

Pro Ser Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg
130 135 140

Ser Arg Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp
145 150 155 160

Gly Ile Arg Leu Asp Gly Ser Ser Phe His Gln Thr Thr Leu Lys Asp
165 170 175

Lys Ala Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser
180 185 190

His Asp Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu
195 200 205

Pro Thr Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro
210 215 220

Met Val Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys
225 230 235 240

Val Thr Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr
245 250 255

Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg
260 265 270

Leu Glu Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys
275 280 285

Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu
290 295 300

Val Leu Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val
305 310 315 320

Asp Val Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro
325 330 335

Leu Pro Arg Ile Thr Trp Thr Arg Met Gly Gly Ser Gln Val Leu Ser
340 345 350

Ser Gly Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly
355 360 365

Asp Tyr Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly
370 375 380

Lys Ala Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala
385 390 395 400

Leu Gln Pro Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys
405 410 415

Val Val Phe Ala Ser Pro Ala Pro Asp Ser Val Val Trp Ser Trp Asp
420 425 430

Glu Gly Phe Leu Glu Ala Gly Ser Leu Gly Arg Phe Leu Val Glu Ala
435 440 445

Phe Pro Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser
450 455 460

Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe
465 470 475 480

Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His
485 490 495

Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala
500 505 510

Ala Ser Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu
515 520 525

Cys Cys Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg
530 535 540

Ile Pro Gly Ser Ser Glu Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu
545 550 555 560

Thr Gly Ser Ser Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser
565 570 575

Asp Leu Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr
580 585 590

Asn Gly Tyr Tyr Arg Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly
595 600 605

Glu Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly
610 615 620

Leu Pro Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Leu Asp Leu
625 630 635 640

Val Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr
645 650 655

Pro His Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly
660 665 670

Pro Pro Glu Leu Ser Ser Gly Thr Pro Pro Phe Pro Tyr Ala Thr Leu
675 680 685

Ser Pro Pro Ser His Gln Arg Leu Gln Thr His Val
690 695 700

<210> 37
<211> 2153
<212> DNA
<213> Homo sapiens

<400> 37
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tccaggccag agactaggct gggcgaagag tcgagcgtga agggggctcc gggccagggt 120

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gtgaaccttg ggggacgaat gctcaggatg cgggtccccg ccctcctcgt cctcctcttc 240

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gtgctgctgg gggaggaagc ccggctgccg tgtgctctgg gcgcctactg ggggctagtt 360

cagtggacta agagtgggct ggccctaggg ggccaaaggg acctaccagg gtggtcccgg 420

tactggatat cagggaatgc agccaatggc cagcatgacc tccacattag gcccgtggag 480

ctagaggatg aagcatcata tgaatgtcag gctacacaag caggcctccg ctccagacca 540

gcccaactgc acgtgctggt ccccccagaa gccccccagg tgctgggcgg cccctctgtg 600

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gtggccgctg ccaccacaac tctccttatg gtcatcactg gggtggccct ctgctgctgg 1800

cgccacagca aggcctcagc ctctttctcc gagcaaaaga acctgatgcg aatccctggc 1860

agcagcgacg gctccagttc acgaggtcct gaagaagagg agacaggcag ccgcgaggac 1920

cggggcccca ttgtgcacac tgaccacagt gatctggttc tggaggagga agggactctg 1980

gagaccaagg acccaaccaa cggttactac aaggtccgag gagtcagtcc acccgcgtct 2040

ccagactcac gtgtgacatc tttccaatgg aagagtcctg ggatctccaa cttgccataa 2100

tggattgttc tgatttctga ggagccagga caagttggcg accttactcc tcc 2153

<210> 38
<211> 633
<212> PRT
<213> Homo sapiens

<400> 38

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
1 5 10 15

Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp
20 25 30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly

35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
100 105 110

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

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
130 135 140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp
145 150 155 160

Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
165 170 175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr

180 185 190

Pro Phe Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser
195 200 205

Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
210 215 220

Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu
225 230 235 240

Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val
245 250 255

Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg
260 265 270

Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro
275 280 285

Val Ser Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr
290 295 300

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

Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg

325 330 335

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

Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu
355 360 365

Asp Ala Gly Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu
370 375 380

Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
385 390 395 400

Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg
405 410 415

Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp
420 425 430

Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu
435 440 445

Val Glu Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly
450 455 460

Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser

465 470 475 480

Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala
485 490 495

Gln Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val
500 505 510

Ala Gly Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly
515 520 525

Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
530 535 540

Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser
545 550 555 560

Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
565 570 575

Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly
580 585 590

Thr Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly
595 600 605

Val Ser Pro Pro Ala Ser Pro Asp Ser Arg Val Thr Ser Phe Gln Trp

610 615 620

Lys Ser Pro Gly Ile Ser Asn Leu Pro
625 630

<210> 39
<211> 2979
<212> DNA
<213> Homo sapiens

<400> 39
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tccaggccag agactaggct gggcgaagag tcgagcgtga agggggctcc gggccagggt 120

gacaggaggc gtgcttgaga ggaagaagtt gacgggaagg ccagtgcgac ggcaaatctc 180

gtgaaccttg ggggacgaat gctcaggatg cgggtccccg ccctcctcgt cctcctcttc 240

tgcttcagag ggagagcagg cccgtcgccc catttcctgc aacagccaga ggacctggtg 300

gtgctgctgg gggaggaagc ccggctgccg tgtgctctgg gcgcctactg ggggctagtt 360

cagtggacta agagtgggct ggccctaggg ggccaaaggg acctaccagg gtggtcccgg 420

tactggatat cagggaatgc agccaatggc cagcatgacc tccacattag gcccgtggag 480

ctagaggatg aagcatcata tgaatgtcag gctacacaag caggcctccg ctccagacca 540

gcccaactgc acgtgctggt ccccccagaa gccccccagg tgctgggcgg cccctctgtg 600

tctctggttg ctggagttcc tgcgaacctg acatgtcgga gccgtgggga tgcccgccct 660

acccctgaat tgctgtggtt ccgagatggg gtcctgttgg atggagccac cttccatcag 720

accctgctga aggaagggac ccctgggtca gtggagagca ccttaaccct gacccctttc 780

agccatgatg atggagccac ctttgtctgc cgggcccgga gccaggccct gcccacagga 840

agagacacag ctatcacact gagcctgcag tacccccag aggtgactct gtctgcttcg 900

ccacacactg tgcaggaggg agagaaggtc attttcctgt gccaggccac agcccagcct 960

cctgtcacag gctacaggtg ggcaaaaggg ggctctccgg tgctcggggc ccgcgggcca 1020

aggttagagg tcgtggcaga cgcctcgttc ctgactgagc ccgtgtcctg cgaggtcagc 1080

aacgccgtgg gtagcgccaa ccgcagtact gcgctggatg tgctgtttgg gccgattctg 1140

caggcaaagc cggagcccgt gtccgtggac gtgggggaag acgcttcctt cagctgcgcc 1200

tggcgcggga acccgcttcc acgggtaacc tggacccgcc gcggtggcgc gcaggtgctg 1260

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ccagagagcc gcgggggact gggtccgggc ctgatctctg tgctacacat ttcggggacc 1620

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cggggcccca ttgtgcacac tgaccacagt gatctggttc tggaggagga agggactctg 1980

gagaccaagg acccaaccaa cggttactac aaggtccgag gagtcagtgt gagcctgagc 2040

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gaactttgct cggccaatgg aaatgcagcc aagatggcca tatactccct aggaacccaa 2820

gatggccacc atcttgattt tactttcctt aaagactcag aaagacttgg acccaaggag 2880

tggggataca gtgagaatta ccactgttgg ggcaaaatat tgggataaaa atatttatgt 2940

ttaataataa aaaaaagtca aagaggcaaa aaaaaaaaa 2979

<210> 40
<211> 708
<212> PRT
<213> Homo sapiens

<400> 40

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
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Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp
20 25 30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly
35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
100 105 110

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

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
130 135 140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp
145 150 155 160

Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
165 170 175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr
180 185 190

Pro Phe Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser
195 200 205

Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
210 215 220

Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu
225 230 235 240

Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val
245 250 255

Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg
260 265 270

Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro
275 280 285

Val Ser Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr
290 295 300

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

Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg
325 330 335

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

Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu
355 360 365

Asp Ala Gly Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu
370 375 380

Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
385 390 395 400

Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg
405 410 415

Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp
420 425 430

Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu
435 440 445

Val Glu Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly
450 455 460

Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser
465 470 475 480

Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala
485 490 495

Gln Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val
500 505 510

Ala Gly Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly
515 520 525

Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
530 535 540

Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser
545 550 555 560

Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
565 570 575

Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly
580 585 590

Thr Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly
595 600 605

Val Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe
610 615 620

Leu Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr
625 630 635 640

Asp Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg
645 650 655

Ala Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser
660 665 670

Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr
675 680 685

Pro Pro Phe Pro Tyr Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu
690 695 700

Gln Thr His Val
705

<210> 41
<211> 2973
<212> DNA
<213> Homo sapiens

<400> 41
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gacaggaggc gtgcttgaga ggaagaagtt gacgggaagg ccagtgcgac ggcaaatctc 180

gtgaaccttg ggggacgaat gctcaggatg cgggtccccg ccctcctcgt cctcctcttc 240

tgcttcagag ggagagcagg cccgtcgccc catttcctgc aacagccaga ggacctggtg 300

gtgctgctgg gggaggaagc ccggctgccg tgtgctctgg gcgcctactg ggggctagtt 360

cagtggacta agagtgggct ggccctaggg ggccaaaggg acctaccagg gtggtcccgg 420

tactggatat cagggaatgc agccaatggc cagcatgacc tccacattag gcccgtggag 480

ctagaggatg aagcatcata tgaatgtcag gctacacaag caggcctccg ctccagacca 540

gcccaactgc acgtgctggt ccccccagaa gccccccagg tgctgggcgg cccctctgtg 600

tctctggttg ctggagttcc tgcgaacctg acatgtcgga gccgtgggga tgcccgccct 660

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agcagcgacg gctccagttc acgaggtcct gaagaagagg agacaggcag ccgcgaggac 1920

cggggcccca ttgtgcacac tgaccacagt gatctggttc tggaggagga agggactctg 1980

gagaccaagg acccaaccaa cggttactac aaggtccgag gagtcagtgt gagcctgagc 2040

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gggacccctа ccttctatga cttcaaccca cacctgggca tggtcccccc ctgcagactt 2160

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aatggccacc atcttgattt tactttcctt aaagactcag aaagacttgg acccaaggag 2880

tggggataca gtgagaatta ccactgttgg ggcaaaatat tgggataaaa atatttatgt 2940

ttaataataa aaaaaagtca aagagaaaaa aaa 2973

<210> 42
<211> 708
<212> PRT
<213> Homo sapiens

<400> 42

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
1 5 10 15

Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp
20 25 30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly
35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn

65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
100 105 110

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

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
130 135 140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp
145 150 155 160

Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
165 170 175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr
180 185 190

Pro Phe Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser
195 200 205

Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln

210 215 220

Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu
225 230 235 240

Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val
245 250 255

Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg
260 265 270

Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro
275 280 285

Val Ser Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr
290 295 300

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

Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg
325 330 335

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

Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu

355 360 365

Asp Ala Gly Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu
370 375 380

Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
385 390 395 400

Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg
405 410 415

Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp
420 425 430

Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu
435 440 445

Val Glu Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly
450 455 460

Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser
465 470 475 480

Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala
485 490 495

Gln Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val

500 505 510

Ala Gly Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly
515 520 525

Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
530 535 540

Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser
545 550 555 560

Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
565 570 575

Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly
580 585 590

Thr Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly
595 600 605

Val Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe
610 615 620

Leu Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr
625 630 635 640

Asp Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg

645 650 655

Ala Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser
660 665 670

Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr
675 680 685

Pro Pro Phe Pro Tyr Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu
690 695 700

Gln Thr His Val
705

<210> 43
<211> 1969
<212> DNA
<213> Homo sapiens

<400> 43
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ggactaagag tgggctggcc ctagggggcc aaagggacct accagggtgg tcccggtact 240

ggatatcagg gaatgcagcc aatggccagc atgacctcca cattaggccc gtggagctag 300

aggatgaagc atcatatgaa tgtcaggcta cacaagcagg cctccgctcc agaccagccc 360

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tcgctgccac cacaactctc cttatggtca tcactggggt ggccctctgc tgctggcgcc 1620

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gcgacggctc cagttcacga ggtcctgaag aagaggagac aggcagccgc gaggaccggg 1740

gccccattgt gcacactgac cacagtgatc tggttctgga ggaggaaggg actctggaga 1800

ccaaggaccc aaccaacggt tactacaagg tccgaggagt cagtccaccc gcgtctccag 1860

actcacgtgt gacatctttc caatggaaga gtcctgggat ctccaacttg ccataatgga 1920

ttgttctgat ttctgaggag ccaggacaag ttggcgacct tactcctcc 1969

<210> 44
<211> 633
<212> PRT
<213> Homo sapiens

<400> 44

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
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Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp
20 25 30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly

35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
100 105 110

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

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
130 135 140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp
145 150 155 160

Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
165 170 175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr

180 185 190

Pro Phe Ser His Asp Asp Gly Ala Thr Leu Val Cys Arg Ala Arg Ser
195 200 205

Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
210 215 220

Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu
225 230 235 240

Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val
245 250 255

Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg
260 265 270

Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro
275 280 285

Val Ser Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr
290 295 300

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

Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg

325 330 335

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

Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu
355 360 365

Asp Ala Asp Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu
370 375 380

Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
385 390 395 400

Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg
405 410 415

Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp
420 425 430

Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu
435 440 445

Val Glu Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly
450 455 460

Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser

465 470 475 480

Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala
485 490 495

Gln Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val
500 505 510

Ala Gly Val Val Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly
515 520 525

Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
530 535 540

Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser
545 550 555 560

Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
565 570 575

Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly
580 585 590

Thr Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly
595 600 605

Val Ser Pro Pro Ala Ser Pro Asp Ser Arg Val Thr Ser Phe Gln Trp

610 615 620

Lys Ser Pro Gly Ile Ser Asn Leu Pro
625 630

<210> 45
<211> 2003
<212> DNA
<213> Homo sapiens

<400> 45
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gacaggaggc gtgcttgaga ggaagaagtt gacgggaagg ccagtgcgac ggcaaatctc 180

gtgaaccttg ggggacgaat gctcaggatg cgggtccccg ccctcctcgt cctcctcttc 240

tgcttcagag ggagagcagg gtggtcccgg tactggatat cagggaatgc agccaatggc 300

cagcatgacc tccacattag gcccgtggag ctagaggatg aagcatcata tgaatgtcag 360

gctacacaag caggcctccg ctccagacca gcccaactgc acgtgctggt ccccccagaa 420

gccccccagg tgctgggcgg cccctctgtg tctctggttg ctggagttcc tgcgaacctg 480

acatgtcgga gccgtgggga tgcccgccct acccctgaat tgctgtggtt ccgagatggg 540

gtcctgttgg atggagccac cttccatcag accctgctga aggaagggac ccctgggtca 600

gtggagagca ccttaaccct gacccctttc agccatgatg atggagccac ctttgtctgc 660

cgggcccgga gccaggccct gcccacagga agagacacag ctatcacact gagcctgcag 720

tacccccag aggtgactct gtctgcttcg ccacacactg tgcaggaggg agagaaggtc 780

attttcctgt gccaggccac agcccagcct cctgtcacag gctacaggtg ggcaaaaggg 840

ggctctccgg tgctcggggc ccgcgggcca aggttagagg tcgtggcaga cgcctcgttc 900

ctgactgagc ccgtgtcctg cgaggtcagc aacgccgtgg gtagcgccaa ccgcagtact 960

gcgctggatg tgctgtttgg gccgattctg caggcaaagc cggagcccgt gtccgtggac 1020

gtgggggaag acgcttcctt cagctgcgcc tggcgcggga acccgcttcc acgggtaacc 1080

tggacccgcc gcggtggcgc gcaggtgctg ggctctggag ccacactgcg tcttccgtcg 1140

gtggggcccg aggacgcagg cgactatgtg tgcagagctg aggctgggct atcgggcctg 1200

cggggcggcg ccgcggaggc tcggctgact gtgaacgctc ccccagtagt gaccgccctg 1260

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tgcagtgccc ggaaccggct gggcgaggga ggtgcccagg ccagcctggg ccgtagagac 1560

ttgctgccca ctgtgcggat agtggccgga gtggccgctg ccaccacaac tctccttatg 1620

gtcatcactg gggtggccct ctgctgctgg cgccacagca aggcctcagc ctctttctcc 1680

gagcaaaaga acctgatgcg aatccctggc agcagcgacg gctccagttc acgaggtcct 1740

gaagaagagg agacaggcag ccgcgaggac cggggcccca ttgtgcacac tgaccacagt 1800

gatctggttc tggaggagga agggactctg gagaccaagg acccaaccaa cggttactac 1860

aaggtccgag gagtcagtcc acccgcgtct ccagactcac gtgtgacatc tttccaatgg 1920

aagagtcctg ggatctccaa cttgccataa tggattgttc tgatttctga ggagccagga 1980

caagttggcg accttactcc tcc 2003

<210> 46
<211> 583
<212> PRT
<213> Homo sapiens

<400> 46

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
1 5 10 15

Arg Gly Arg Ala Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ala Ala
20 25 30

Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu Asp Glu
35 40 45

Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser Arg Pro
50 55 60

Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val Leu Gly
65 70 75 80

Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu Thr Cys
85 90 95

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

Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu Leu Lys
115 120 125

Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr Pro Phe
130 135 140

Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser Gln Ala
145 150 155 160

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

Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu Gly Glu
180 185 190

Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly
195 200 205

Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro
210 215 220

Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro Val Ser
225 230 235 240

Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu
245 250 255

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

Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg Gly Asn
275 280 285

Pro Leu Pro Arg Val Thr Trp Thr Arg Arg Gly Gly Ala Gln Val Leu
290 295 300

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

Gly Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu Arg Gly
325 330 335

Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr
340 345 350

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

Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp Ser Trp
370 375 380

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

Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly Leu Ile
405 410 415

Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser Arg Ser
420 425 430

Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala Gln Ala
435 440 445

Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly
450 455 460

Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly Val Ala
465 470 475 480

Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser Glu Gln
485 490 495

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

Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly Pro Ile
515 520 525

Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly Thr Leu
530 535 540

Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly Val Ser
545 550 555 560

Pro Pro Ala Ser Pro Asp Ser Arg Val Thr Ser Phe Gln Trp Lys Ser
565 570 575

Pro Gly Ile Ser Asn Leu Pro
580

<210> 47
<211> 1819
<212> DNA
<213> Homo sapiens

<400> 47
accttggggg acgaatgctc tggatgcggg tccccgccct cctcgtcctc ctcttctgct 60

tcagagggag agcagggtgg tcccggtact ggatatcagg gaatgcagcc aatggccagc 120

atgacctcca cattaggccc gtggagctag aggatgaagc atcatatgaa tgtcaggcta 180

cacaagcagg cctccgctcc agaccagccc aactgcacgt gctggtcccc ccagaagccc 240

cccaggtgct gggcggcccc tctgtgtctc tggttgctgg agttcctgcg aacctgacat 300

gtcggagccg tggggatgcc cgccctaccc ctgaattgct gtggttccga gatggggtcc 360

tgttggatgg agccaccttc catcagaccc tgctgaagga agggaccccc gggtcagtgg 420

agagcacctt aaccctgacc cctttcagcc atgatgatgg agccaccttt gtctgccggg 480

cccggagcca ggccctgccc acaggaagag acacagctat cacactgagc ctgcagtacc 540

ccccagaggt gactctgtct gcttcgccac acactgtgca ggagggagag aaggtcattt 600

tcctgtgcca ggccacagcc cagcctcctg tcacaggcta caggtgggca aaaggggggct 660

ctccggtgct cggggcccgc gggccaaggt tagaggtcgt ggcagacgcc tcgttcctga 720

ctgagcccgt gtcctgcgag gtcagcaacg ccgtgggtag cgccaaccgc agtactgcgc 780

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ggcccgagga cgcagacgac tatgtgtgca gagctgaggc tgggctatcg ggtctgcggg 1020

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tgcccactgt gcggatagtg gccggagtgg tcgctgccac cacaactctc cttatggtca 1440

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aaaagaacct gatgcgaatc cctggcagca gcgacggctc cagttcacga ggtcctgaag 1560

aagaggagac aggcagccgc gaggaccggg gccccattgt gcacactgac cacagtgatc 1620

tggttctgga ggaggaaggg actctggaga ccaaggaccc aaccaacggt tactacaagg 1680

tccgaggagt cagtccaccc gcgtctccag actcacgtgt gacatctttc caatggaaga 1740

gtcctgggat ctccaacttg ccataatgga ttgttctgat ttctgaggag ccaggacaag 1800

ttggcgacct tactcctcc 1819

<210> 48
<211> 583
<212> PRT
<213> Homo sapiens

<400> 48

Met Leu Trp Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe
1 5 10 15

Arg Gly Arg Ala Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ala Ala
20 25 30

Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu Asp Glu
35 40 45

Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser Arg Pro
50 55 60

Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val Leu Gly
65 70 75 80

Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu Thr Cys
85 90 95

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

Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu Leu Lys
115 120 125

Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr Pro Phe
130 135 140

Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser Gln Ala
145 150 155 160

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

Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu Gly Glu
180 185 190

Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly
195 200 205

Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro
210 215 220

Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro Val Ser
225 230 235 240

Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu
245 250 255

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

Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg Gly Asn
275 280 285

Pro Leu Pro Arg Val Thr Trp Thr Arg Arg Gly Gly Ala Gln Val Leu
290 295 300

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

Asp Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu Arg Gly
325 330 335

Gly Ala Val Glu Ala Arg Leu Thr Val Asp Ala Pro Pro Val Val Thr
340 345 350

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

Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp Ser Trp
370 375 380

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

Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly Leu Ile
405 410 415

Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser Arg Ser
420 425 430

Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala Gln Ala
435 440 445

Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly
450 455 460

Val Val Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly Val Ala
465 470 475 480

Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser Glu Gln
485 490 495

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

Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly Pro Ile
515 520 525

Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly Thr Leu
530 535 540

Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly Val Ser
545 550 555 560

Pro Pro Ala Ser Pro Asp Ser Arg Val Thr Ser Phe Gln Trp Lys Ser
565 570 575

Pro Gly Ile Ser Asn Leu Pro
580

<210> 49
<211> 2959
<212> DNA
<213> Homo sapiens

<400> 49
atgcacttga gtgcaccttg agtctccagc ctctcaagga accgggagat caggccatca 60

gcgtctcagc cagcaaaggc ctgaaccacc agtcccttat aaccctgcgt ttcagagcgt 120

cagaggcgtg cttgagagga agaagttgac gggaaggcca gtgcgacggc aaatctcgtg 180

aaccttgggg gacgaatgct caggatgcgg gtccccgccc tcctcgtcct cctcttctgc 240

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tggatatcag ggaatgcagc caatggccag catgacctcc acattaggcc cgtggagcta 480

gaggatgaag catcatatga atgtcaggct acacaagcag gcctccgctc cagaccagcc 540

caactgcacg tgctggtccc cccagaagcc ccccaggtgc tgggcggccc ctctgtgtct 600

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cctgaattgc tgtggttccg agatggggtc ctgttggatg gagccacctt ccatcagacc 720

ctgctgaagg aagggacccc tgggtcagtg gagagcacct taaccctgcc cacaggaaga 780

gacacagcta tcacactgag cctgcagtac cccccagagg tgactctgtc tgcttcgcca 840

cacactgtgc aggagggaga gaaggtcatt ttcctgtgcc aggccacagc ccagcctcct 900

gtcacaggct acaggtgggc aaaaggggggc tctccggtgc tcggggcccg cgggccaagg 960

ttagaggtcg tggcagacgc ctcgttcctg actgagcccg tgtcctgcga ggtcagcaac 1020

gccgtgggta gcgccaaccg cagtactgcg ctggatgtgc tgtttgggcc gattctgcag 1080

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ggccccattg tgcacactga ccacagtgat ctggttctgg aggaggaagg gactctggag 1920

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gtttctagcc actgaaagaa gatatttcaa gatgaccatc tgcattgaga ggaaaggtag 2640

cataggatag atgaagatga agagcatacc aggccccacc ctggctctcc ctgaggggaa 2700

ctttgctcgg ccaatggaaa tgcagccaag atggccatat actccctagg aacccaagat 2760

ggccaccatc ttgattttac tttccttaaa gactcagaaa gacttggacc caaggagtgg 2820

ggatacagtg agaattacca ctgttggggc aaaatattgg gataaaaata tttatgttta 2880

ataataaaaa aaagtcaaag aggaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2940

aaaaaaaaaa aaaaaaaaa 2959

<210> 50
<211> 688
<212> PRT
<213> Homo sapiens

<400> 50

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe

1 5 10 15

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20 25 30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly
35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
100 105 110

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

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
130 135 140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp

145 150 155 160

Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu
165 170 175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Pro
180 185 190

Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln Tyr Pro Pro Glu
195 200 205

Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu Gly Glu Lys Val
210 215 220

Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr Arg
225 230 235 240

Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg Leu
245 250 255

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

Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Asp Val
275 280 285

Leu Phe Gly Pro Ile Leu Gln Ala Lys Pro Glu Pro Val Ser Val Asp

290 295 300

Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg Gly Asn Pro Leu
305 310 315 320

Pro Arg Val Thr Trp Thr Arg Arg Gly Gly Ala Gln Val Leu Gly Ser
325 330 335

Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu Asp Ala Gly Asp
340 345 350

Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu Arg Gly Gly Ala
355 360 365

Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala Leu
370 375 380

His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys Leu
385 390 395 400

Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp Ser Trp Asp Glu
405 410 415

Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu Val Glu Thr Phe
420 425 430

Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly Leu Ile Ser Val

435 440 445

Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser Arg Ser Phe Asn
450 455 460

Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala Gln Ala Ser Leu
465 470 475 480

Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Val Ala
485 490 495

Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly Val Ala Leu Cys
500 505 510

Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser Glu Gln Lys Asn
515 520 525

Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser Ser Arg Gly Pro
530 535 540

Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly Pro Ile Val His
545 550 555 560

Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly Thr Leu Glu Thr
565 570 575

Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly Val Ser Val Ser

580 585 590

Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro
595 600 605

Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr Asp Phe Asn Pro
610 615 620

His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly
625 630 635 640

Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser Tyr Ile Lys Pro
645 650 655

Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr Pro Pro Phe Pro
660 665 670

Tyr Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu Gln Thr His Val
675 680 685

<210> 51
<211> 2591
<212> DNA
<213> Pan troglodytes

<400> 51
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ctggccctag ggggccaaag ggacctacca gggtggtccc ggtactggat atcagggaat 240

gcagccaatg gccagcatga cctccacatt aggcccgtgg agctagagga tgaagcatca 300

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acctttgtct gccgggcccg gagccaggcc ctgccctcag gaagagacac ggctatcaca 660

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agtgtgtctt a 2591

<210> 52
<211> 643
<212> PRT
<213> Pan troglodytes

<400> 52

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Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly
35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly
50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn
65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu
85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser
100 105 110

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

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu
130 135 140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Thr Pro Glu Leu Leu Trp
145 150 155 160

Phe Arg Asp Gly Val Leu Leu Asp Gly Thr Thr Phe His Gln Thr Leu
165 170 175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr
180 185 190

Pro Phe Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser
195 200 205

Gln Ala Leu Pro Ser Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
210 215 220

Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu
225 230 235 240

Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Asp Gln Pro Pro Val
245 250 255

Thr Gly Tyr Arg Glu Asp Glu Asp Pro Glu Ser Thr Thr Met Gly Thr
260 265 270

Arg Leu Pro Thr Asn Pro Ala Ser Asp Ala Pro Ser Leu Ser Gln Val
275 280 285

Leu Gly Ser Gly Ala Thr Leu His Leu Pro Ser Val Gly Pro Glu Asp
290 295 300

Ala Gly Asp Tyr Val Cys Arg Ala Glu Pro Gly Leu Ser Gly Leu Gly
305 310 315 320

Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val
325 330 335

Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu
340 345 350

Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp Ser
355 360 365

Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu Val
370 375 380

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

Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser Arg
405 410 415

Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala Gln
420 425 430

Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala
435 440 445

Gly Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly Val
450 455 460

Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser Glu
465 470 475 480

Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser Ser
485 490 495

Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly Pro
500 505 510

Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Glu Gly Thr
515 520 525

Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly Val
530 535 540

Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe Leu
545 550 555 560

Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr Asp
565 570 575

Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg Ala
580 585 590

Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser Tyr
595 600 605

Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr Pro
610 615 620

Pro Phe Pro Cys Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu Gln
625 630 635 640

Thr His Val

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<211> 3019
<212> DNA
<213> Bos taurus

<400> 53
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atgctcgtgc ccgtactcct cgtcctctcc ttctgcctca gggggcgtgc aggcctggca 360

ccccactttc tgcaacagcc agaggaccag gtagttctgt tgggagacga ggcccgactg 420

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aaaaaaaaaa aagttgcaa 3019

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<211> 804
<212> PRT
<213> Bos taurus

<400> 54

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Gly Asn Gln Pro Ser Arg Val Ser Pro Arg Pro Gly Ala Pro Asn Trp
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Gln Ala Phe Gln Ser Gly Gly Val Cys Gly Gly Ala Asp Glu Gly Thr
35 40 45

Ser Arg Ser Glu Arg Gly Glu Leu Leu Ala Trp Gly Glu Glu Ser Arg
50 55 60

Ala Glu Gly Thr Pro Gly Gln Ser Gly Gly Lys Cys Ala Pro Arg Lys
65 70 75 80

Glu Leu Ala Gly Lys Pro Val Gln Gln Gln Val Cys Trp Ile Leu Gly
85 90 95

Asp Thr Leu Arg Met Leu Val Pro Val Leu Leu Val Leu Ser Phe Cys
100 105 110

Leu Arg Gly Arg Ala Gly Leu Ala Pro His Phe Leu Gln Gln Pro Glu
115 120 125

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

Gly Asp Tyr Arg Gly Leu Val Gln Trp Thr Lys Asp Gly Leu Ala Leu
145 150 155 160

Gly Gly Glu Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly
165 170 175

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

Glu Asp Gln Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg
195 200 205

Ser Arg Pro Ala Gln Leu His Val Leu Val Pro Pro Asp Pro Pro Gln
210 215 220

Val Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn
225 230 235 240

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

Trp Phe Arg Asp Gly Ile Arg Leu Asp Gly Ala Ile Phe Arg Gln Thr
260 265 270

Pro Leu Lys Glu Gly Thr Ile Gly Ser Val Glu Ser Ile Leu Ser Leu
275 280 285

Thr Pro Ser Ser His Asp Asp Gly Ala Thr Leu Val Cys Arg Ala Arg
290 295 300

Ser Gln Ala Leu Pro Ala Gly Lys Asp Thr Ala Val Thr Leu Ser Leu
305 310 315 320

Gln Tyr Pro Pro Val Val Thr Leu Ser Ala Glu Pro Gln Thr Val Gln
325 330 335

Glu Gly Glu Lys Val Thr Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro
340 345 350

Val Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala
355 360 365

Arg Gly Pro Met Leu Glu Ile Val Ala Asp Ala Ser Phe Leu Thr Ala
370 375 380

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

Thr Ala Leu Asp Val Gln Phe Gly Pro Ile Leu Gln Ala Lys Pro Lys
405 410 415

Ala Leu Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Val Trp
420 425 430

Arg Gly Asn Pro Leu Pro Arg Val Thr Trp Thr Arg Arg Gly Asp Ala
435 440 445

Gln Val Leu Ala Ser Gly Pro Thr Leu Arg Leu Pro Ala Val Gly Pro
450 455 460

Glu Asp Ala Gly Asp Tyr Val Cys Arg Ala Glu Pro Gly Leu Ser Gly
465 470 475 480

Arg Gly Gly Gly Ser Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro
485 490 495

Val Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala
500 505 510

Arg Leu Gln Cys Leu Val Phe Ala Ser Pro Thr Pro Glu Ala Val Val
515 520 525

Trp Ser Trp Asp Glu Gly Phe Leu Thr Ala Gly Ser Arg Gly Arg Phe
530 535 540

Leu Val Glu Thr Phe Pro Ala Pro Glu Gly Leu Lys Gly Gln Gly Pro
545 550 555 560

Gly Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe
565 570 575

His Arg Gly Phe Asn Cys Thr Ala Arg Asn Arg Leu Gly Glu Gly Gly
580 585 590

Thr Gln Val Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile
595 600 605

Val Ala Gly Val Ala Ala Met Ala Met Thr Leu Leu Met Ile Ile Thr
610 615 620

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

Ser Lys Gln Lys Asn Leu Val Arg Ile Pro Gly Ser Ser Asp Gly Ser
645 650 655

Ser Ser Arg Gly Pro Glu Glu Glu Thr Gly Ile Ser Lys Asp Gln Gly
660 665 670

Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Asp Glu Glu Gly
675 680 685

Ala Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly
690 695 700

Val Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe
705 710 715 720

Leu Pro Pro Ser Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr
725 730 735

Asp Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg
740 745 750

Ser Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser
755 760 765

Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Ser Thr
770 775 780

Pro Pro Phe Pro Tyr Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu
785 790 795 800

Gln Thr His Val

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<223> an artificially synthesized sequence

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<210> 57
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<211> 3261
<212> DNA
<213> Mus musculus

<400> 58
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