

SEQUENCE LISTING

<110> AMGEN INC.
O'Neill, et al.

<120> VARIANTS OF TISSUE INHIBITOR OF METALLOPROTEINASE TYPE THREE
(TIMP-3), COMPOSITIONS AND METHODS

<130> 01017/49907

<150> 62/042,574

<151> 2014-08-27

<160> 75

<170> PatentIn version 3.5

<210> 1

<211> 633

<212> DNA

<213> Homo sapiens

<400> 1

atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac ccc	633

<210> 2

<211> 211

<212> PRT

<213> Homo sapiens

<400> 2

Met Thr Pro Trp Leu Gly Leu Ile Val Leu Leu Gly Ser Trp Ser Leu

[illegible]

<210> 3
<211> 188
<212> PRT
<213> Homo sapiens

<400> 3

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Asn Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 4
<211> 188
<212> PRT
<213> Homo sapiens

<400> 4

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro

180

185

<210> 5
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 5

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
 20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
 50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
 65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
 115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
 130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
 145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
 165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 6
<211> 188
<212> PRT
<213> Homo sapiens

<400> 6

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 7
<211> 188
<212> PRT
<213> Homo sapiens

<400> 7

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 8
<211> 188
<212> PRT
<213> Homo sapiens

<400> 8

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala

165

170

175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
 180 185

<210> 9

<211> 188

<212> PRT

<213> Homo sapiens

<400> 9

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
 20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
 50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
 115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
 130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
 145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 10
<211> 188
<212> PRT
<213> Homo sapiens

<400> 10

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 11
<211> 188
<212> PRT
<213> Homo sapiens

<400> 11

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Asn Val Thr Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 12
<211> 188
<212> PRT
<213> Homo sapiens

<400> 12

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Ser Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala

145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
 165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
 180 185

<210> 13
<211> 188
<212> PRT
<213> Homo sapiens

<400> 13

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Ser Val Val Gly Lys Lys Leu Val Lys Glu Gly
 20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
 115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 14
<211> 188
<212> PRT
<213> Homo sapiens

<400> 14

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 15
<211> 188
<212> PRT
<213> Homo sapiens

<400> 15

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 16
<211> 188
<212> PRT
<213> Homo sapiens

<400> 16

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp

130

135

140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
 145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
 165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
 180 185

<210> 17

<211> 188

<212> PRT

<213> Homo sapiens

<400> 17

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
 20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
 50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
 115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 18
<211> 188
<212> PRT
<213> Homo sapiens

<400> 18

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 19
<211> 188
<212> PRT
<213> Homo sapiens

<400> 19

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Asn Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 20
<211> 188
<212> PRT
<213> Homo sapiens

<400> 20

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr

115

120

125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
 130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
 145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
 165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
 180 185

<210> 21

<211> 188

<212> PRT

<213> Homo sapiens

<400> 21

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
 20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
 50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Asn Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 22
<211> 188
<212> PRT
<213> Homo sapiens

<400> 22

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 23
<211> 188
<212> PRT
<213> Homo sapiens

<400> 23

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 24
<211> 188
<212> PRT
<213> Homo sapiens

<400> 24

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Asn Phe Thr Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Asn Leu Thr Leu Ser Gln Arg Lys Gly Leu

100

105

110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
 115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
 130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
 145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
 165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
 180 185

<210> 25
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 25

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
 20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
 50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 26
<211> 188
<212> PRT
<213> Homo sapiens

<400> 26

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro
180 185

<210> 27
<211> 651
<212> DNA
<213> Homo sapiens

<400> 27
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ctttctgcaa ctccgacatc 120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggaactt caccacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac 300
cagtacctgc tgacaggctc cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360
gtggagaggt gggacaatct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaaggcggc tactgcagct ggtaccgagg atgggcccc 600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 28
<211> 651
<212> DNA
<213> Homo sapiens

<400> 28
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ctttctgcaa ctccgacatc 120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggaactt caccacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 29
<211> 651
<212> DNA
<213> Homo sapiens

<400> 29
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ctttctgcaa ctccgacatc 120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggaactt caccacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600

ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 30
<211> 651
<212> DNA
<213> Homo sapiens

<400> 30
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac cccaggacg ccttctgcaa ctccgacatc 120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggcccaa cggcacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 31
<211> 651
<212> DNA
<213> Homo sapiens

<400> 31
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac cccaggacg ccttctgcaa ctccgacatc 120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggcccaa cggcacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480

aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 32
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 32	
atgaccctt ggctcgggt catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg cttctgcaa ctccgacatc	120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 33
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 33	
atgaccctt ggctcgggt catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg cttctgcaa ctccgacatc	120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc	360

gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctggggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 34
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 34	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc	120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctggggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 35
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 35	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc	120
gtgatccggg ccaatgtgac ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240

tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 36
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 36	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccagcgtggg ggggaagaag ctggtaaagg aggggcccaa cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 37
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 37	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac cccaggacg ctttctgcaa ctccgacatc	120

gtgatccggg ccagcgtggt ggggaagaag ctggtaaagg aggggcccac cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 38
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 38	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg cttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggaactt caccacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 39
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 39
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ccttctgcaa ctccgacatc 120
gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600
ccgataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 40
<211> 651
<212> DNA
<213> Homo sapiens

<400> 40
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ccttctgcaa ctccgacatc 120
gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600
ccgataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 41

<211> 651
<212> DNA
<213> Homo sapiens

<400> 41
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ctttctgcaa ctccgacatc 120
gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 42
<211> 651
<212> DNA
<213> Homo sapiens

<400> 42
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ctttctgcaa ctccgacatc 120
gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg 180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa 540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600

ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 43

<211> 651

<212> DNA

<213> Homo sapiens

<400> 43

atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60

gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc 120

gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg 180

gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag 240

tacatccaca cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac 300

cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360

gtggagaggt gggacaatct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420

ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480

aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa 540

cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600

ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t 651

<210> 44

<211> 651

<212> DNA

<213> Homo sapiens

<400> 44

atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60

gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc 120

gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggaactt caccacgctg 180

gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg 240

tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300

cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc 360

gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420

ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480

aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 45
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 45	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggaactt caccacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggacaatct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 46
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 46	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggaactt caccacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc	360

gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 47
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 47	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggaactt caccacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 48
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 48	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggaactt caccacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240

tacatccaca cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggacaatct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 49
 <211> 651
 <212> DNA
 <213> Homo sapiens

<400> 49	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac cccagggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggg ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccaccacc atcaccatca t	651

<210> 50
 <211> 2391
 <212> DNA
 <213> Homo sapiens

<400> 50	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac cccagggacg ctttctgcaa ctccgacatc	120

gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggctc cgtctataat ggcacgatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaaggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccgatgcac acaagagtga ggttgctcat	660
cgatttaaag atttgggaga agaaaatttc aaagccttgg tgttgattgc ctttgctcag	720
tatcttcagc agtgtccatt tgaagatcat gtaaaattag tgaatgaagt aactgaattt	780
gcaaaaacat gtgttgctga tgagtcagct gaaaattgtg acaaactact tcataccctt	840
tttgagaca aattatgcac agttgcaact cttcgtgaaa cctatggtga aatggctgac	900
tgctgtgcaa aacaagaacc tgagagaaat gaatgcttct tgcaacacaa agatgacaac	960
ccaaacctcc cccgattggt gagaccagag gttgatgtga tgtgcaactgc ttttcatgac	1020
aatgaagaga catTTTTgaa aaaatactta tatgaaattg ccagaagaca tccttacttt	1080
tatgccccgg aactcctttt ctttgctaaa aggtataaag ctgctttttac agaattgtgc	1140
caagctgctg ataaagctgc ctgcctgttg ccaaagctcg atgaacttcg ggatgaaggg	1200
aaggcttcgt ctgccaaca gagactcaag tgtgccagtc tccaaaaatt tggagaaaga	1260
gctttcaaag catgggcagt agctcgctg agccagagat ttcccaaagc tgagtttgca	1320
gaagtttcca agttagtac agatcttacc aaagtccaca cggaatgctg ccatggagat	1380
ctgcttgaat gtgctgatga cagggcggac cttgccaagt atatctgtga aaatcaagat	1440
tcgatctcca gtaaaactgaa ggaatgctgt gaaaaacctc tgttgaaaa atcccactgc	1500
attgccgaag tggaaaatga tgagatgcct gctgacttgc cttcattagc tgctgatttt	1560
gttgaaagta aggatgtttg caaaaactat gctgaggcaa aggatgtctt cctgggcatg	1620
tttttgtatg aatatgcaag aaggcatcct gattactctg tcgtgctgct gctgagactt	1680
gccaagacat atgaaaccac tctagagaag tgctgtgccg ctgcagatcc tcatgaatgc	1740

tatgccaaag tgttcgatga atttaaact cttgtggaag agcctcagaa tttaatcaaa	1800
caaaattgtg agctttttga gcagcttgga gagtacaaat tccagaatgc gctattagtt	1860
cgttacacca agaaagtacc ccaactgtca actccaactc ttatcgaggt ctcaagaaac	1920
ctaggaaaag tgggcagcaa atgttgtaaa catcctgaag caaaaagaat gccctgtgca	1980
gaagactatc tatccgtggt cctgaaccag ttatgtgtgt tgcattgagaa aacgccagta	2040
agtgacagag tcaccaaag ctgcacagaa tccttggtga acaggcgacc atgcttttca	2100
gctctggaag tcgatgaaac atacgttccc aaagagttta cagctaacac attcaccttc	2160
catgcagata tatgcacact ttctgagaag gagagacaaa tcaagaaaca aactgtgctt	2220
gttgagctcg tgaaacacaa gccaaggca acaaaagagc aactgaaagc tgccatggat	2280
gatttcgcag cttttgtaga gaagtgtgc aaggctgacg ataaggagac ctgcttttagc	2340
gaggagggtg aaaaacttgt tgcggccagt caggccgcct taggcttatg a	2391

<210> 51
 <211> 773
 <212> PRT
 <213> Homo sapiens

<400> 51

Cys	Thr	Cys	Ser	Pro	Ser	His	Pro	Gln	Asp	Ala	Phe	Cys	Asn	Ser	Asp
1				5					10					15	

Ile	Val	Ile	Arg	Ala	Lys	Val	Val	Gly	Lys	Lys	Leu	Val	Lys	Glu	Gly
			20					25					30		

Pro	Phe	Gly	Thr	Leu	Val	Tyr	Thr	Ile	Lys	Gln	Met	Lys	Met	Tyr	Arg
		35					40					45			

Gly	Phe	Thr	Lys	Met	Pro	Asn	Val	Thr	Tyr	Ile	His	Thr	Glu	Ala	Ser
50						55				60					

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

Leu	Thr	Gly	Arg	Val	Tyr	Asn	Gly	Thr	Met	Tyr	Thr	Gly	Leu	Cys	Asn
				85					90					95	

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro Asp Ala His Lys
180 185 190

Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys
195 200 205

Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe
210 215 220

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

Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr
245 250 255

Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr
260 265 270

Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu
275 280 285

Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val
290 295 300

Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu
305 310 315 320

Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr
325 330 335

Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala
340 345 350

Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro
355 360 365

Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln
370 375 380

Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys
385 390 395 400

Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe
405 410 415

Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu
420 425 430

Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu
435 440 445

Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys
450 455 460

Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu
465 470 475 480

Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp
485 490 495

Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp
500 505 510

Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp
515 520 525

Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr
530 535 540

Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys
545 550 555 560

Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile
565 570 575

Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln
580 585 590

Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Leu Ser Thr
595 600 605

Pro Thr Leu Ile Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys
610 615 620

Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr
625 630 635 640

Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro
645 650 655

Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg
660 665 670

Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys
675 680 685

Glu Phe Thr Ala Asn Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu
690 695 700

Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Val Leu Val Glu Leu
705 710 715 720

Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Ala Met
725 730 735

Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys
740 745 750

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

Ala Ala Leu Gly Leu
770

<210> 52
<211> 419
<212> PRT
<213> Homo sapiens

<400> 52

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Ser Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala

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

Val Leu Lys Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
370 375 380

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
385 390 395 400

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

Pro Gly Lys

<210> 53
<211> 227
<212> PRT
<213> Homo sapiens

<400> 53

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
1 5 10 15

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
20 25 30

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
35 40 45

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
50 55 60

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
65 70 75 80

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
115 120 125

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
130 135 140

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
145 150 155 160

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Asp Thr Thr Pro Pro
165 170 175

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp Leu Thr Val
180 185 190

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
195 200 205

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
210 215 220

Pro Gly Lys
225

<210> 54
<211> 640
<212> PRT
<213> Homo sapiens

<400> 54

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Asn Leu Thr Val Asn Lys Tyr Gln Tyr Leu

80

95

110

125

140

160

175

190

205

220

240

255

270

285

Arg Gly Gly Asp Tyr Ala Tyr Gly Met Asp Val Trp Gly Gln Gly Thr
290 295 300

Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
305 310 315 320

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
325 330 335

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
340 345 350

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
355 360 365

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
370 375 380

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
385 390 395 400

Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp Lys Thr
405 410 415

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser
420 425 430

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
435 440 445

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
450 455 460

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
465 470 475 480

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
485 490 495

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr

500

505

510

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

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 530 535 540

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
 545 550 555 560

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 565 570 575

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 580 585 590

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 595 600 605

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 610 615 620

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 625 630 635 640

<210> 55
 <211> 403
 <212> PRT
 <213> Homo sapiens

<400> 55

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Asn Leu Thr Lys Glu Gly
 20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

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

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Thr Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro Glu Ile Val Leu
180 185 190

Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr
195 200 205

Leu Ser Cys Arg Ala Ser Gln Gly Ile Ser Arg Ser Glu Leu Ala Trp
210 215 220

Tyr Gln Gln Lys Pro Gly Gln Ala Pro Ser Leu Leu Ile Tyr Gly Ala
225 230 235 240

Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser
245 250 255

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

Ala Val Tyr Tyr Cys Gln Gln Phe Gly Ser Ser Pro Trp Thr Phe Gly
275 280 285

Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val
290 295 300

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

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
325 330 335

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
340 345 350

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
355 360 365

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
370 375 380

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
385 390 395 400

Gly Glu Cys

<210> 56
<211> 405
<212> PRT
<213> Homo sapiens

<400> 56

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg

35

40

45

Gly Phe Thr Lys Met Pro Asn Val Thr Tyr Ile His Thr Glu Ala Ser
 50 55 60

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

Leu Thr Gly Arg Val Tyr Asn Gly Thr Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Thr Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
 115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
 130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
 145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
 165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro Ala Pro Glu Leu
 180 185 190

Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 195 200 205

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 210 215 220

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 225 230 235 240

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 245 250 255

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
260 265 270

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
275 280 285

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
290 295 300

Gln Val Thr Thr Leu Pro Pro Ser Arg Glu Glu Met Asn Lys Thr Gln
305 310 315 320

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
325 330 335

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Asp Thr Thr
340 345 350

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp Leu
355 360 365

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

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
385 390 395 400

Leu Ser Pro Gly Lys
405

<210> 57
<211> 779
<212> PRT
<213> Homo sapiens

<400> 57

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro Asp Ala His Lys
180 185 190

Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys
195 200 205

Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro Phe
210 215 220

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

Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr
245 250 255

Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr
260 265 270

Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu
275 280 285

Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val
290 295 300

Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu
305 310 315 320

Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro Tyr
325 330 335

Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala
340 345 350

Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro
355 360 365

Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys Gln
370 375 380

Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys
385 390 395 400

Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe
405 410 415

Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu
420 425 430

Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu
435 440 445

Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys
450 455 460

Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala Glu
465 470 475 480

Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp
485 490 495

Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp
500 505 510

Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp
515 520 525

Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr
530 535 540

Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala Lys
545 550 555 560

Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile
565 570 575

Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln
580 585 590

Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr
595 600 605

Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys
610 615 620

Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr
625 630 635 640

Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro
645 650 655

Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg
660 665 670

Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys
675 680 685

Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu
690 695 700

Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu
705 710 715 720

Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met
725 730 735

Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp Lys
740 745 750

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

Ala Ala Leu Gly Leu His His His His His
770 775

<210> 58
<211> 777
<212> PRT
<213> Homo sapiens

<400> 58

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Ser Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Cys Lys Ile Lys Ser Cys Tyr
115 120 125

Tyr Leu Pro Cys Phe Val Thr Ser Lys Asn Glu Cys Leu Trp Thr Asp
130 135 140

Met Leu Ser Asn Phe Gly Tyr Pro Gly Tyr Gln Ser Lys His Tyr Ala
145 150 155 160

Cys Ile Arg Gln Lys Gly Gly Tyr Cys Ser Trp Tyr Arg Gly Trp Ala
165 170 175

Pro Pro Asp Lys Ser Ile Ile Asn Ala Thr Asp Pro Gly Gly Gly Gly
180 185 190

Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
195 200 205

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
210 215 220

Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
225 230 235 240

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
245 250 255

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
260 265 270

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
275 280 285

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu

290

295

300

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
 305 310 315 320

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

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
 340 345 350

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
 355 360 365

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
 370 375 380

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
 385 390 395 400

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
 405 410 415

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
 420 425 430

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
 435 440 445

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

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
 465 470 475 480

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
 485 490 495

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

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
515 520 525

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
530 535 540

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
545 550 555 560

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
565 570 575

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
580 585 590

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
595 600 605

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
610 615 620

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
625 630 635 640

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
645 650 655

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
660 665 670

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
675 680 685

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
690 695 700

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
705 710 715 720

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu

725

730

735

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
 740 745 750

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
 755 760 765

Ala Ala Ser Gln Ala Ala Leu Gly Leu
 770 775

<210> 59

<211> 718

<212> PRT

<213> Homo sapiens

<400> 59

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
 1 5 10 15

Ile Val Ile Arg Ala Lys Val Val Gly Lys Lys Leu Val Lys Glu Gly
 20 25 30

Pro Phe Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
 35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
 50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
 65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
 85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
 100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Gly Gly Gly Gly Asp Ala His
 115 120 125

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

Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
145 150 155 160

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

Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
180 185 190

Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
195 200 205

Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
210 215 220

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
225 230 235 240

Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu
245 250 255

Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
260 265 270

Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
275 280 285

Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
290 295 300

Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
305 310 315 320

Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
325 330 335

Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu
340 345 350

Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr
355 360 365

Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp
370 375 380

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

Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala
405 410 415

Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala
420 425 430

Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys
435 440 445

Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro
450 455 460

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

Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala
485 490 495

Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu
500 505 510

Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe
515 520 525

Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser
530 535 540

Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
545 550 555 560

Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
565 570 575

Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
580 585 590

Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
595 600 605

Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
610 615 620

Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
625 630 635 640

Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
645 650 655

Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
660 665 670

Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp
675 680 685

Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
690 695 700

Gln Ala Ala Leu Gly Leu Val Asp His His His His His His
705 710 715

<210> 60
<211> 718
<212> PRT
<213> Homo sapiens

<400> 60

Cys Thr Cys Ser Pro Ser His Pro Gln Asp Ala Phe Cys Asn Ser Asp
1 5 10 15

Ile Val Ile Arg Ala Ser Val Val Gly Lys Lys Leu Val Lys Glu Gly
20 25 30

Pro Asn Gly Thr Leu Val Tyr Thr Ile Lys Gln Met Lys Met Tyr Arg
35 40 45

Gly Phe Thr Lys Met Pro His Val Gln Tyr Ile His Thr Glu Ala Ser
50 55 60

Glu Ser Leu Cys Gly Leu Lys Leu Glu Val Asn Lys Tyr Gln Tyr Leu
65 70 75 80

Leu Thr Gly Arg Val Tyr Asp Gly Lys Met Tyr Thr Gly Leu Cys Asn
85 90 95

Phe Val Glu Arg Trp Asp Gln Leu Thr Leu Ser Gln Arg Lys Gly Leu
100 105 110

Asn Tyr Arg Tyr His Leu Gly Cys Asn Gly Gly Gly Gly Asp Ala His
115 120 125

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

Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Cys Pro
145 150 155 160

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

Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His
180 185 190

Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr
195 200 205

Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn
210 215 220

Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu
225 230 235 240

Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu

245

250

255

Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg Arg His Pro
 260 265 270

Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala
 275 280 285

Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu
 290 295 300

Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser Ser Ala Lys
 305 310 315 320

Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe
 325 330 335

Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu
 340 345 350

Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr
 355 360 365

Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp
 370 375 380

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

Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His Cys Ile Ala
 405 410 415

Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala
 420 425 430

Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys
 435 440 445

Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro
 450 455 460

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

Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu Cys Tyr Ala
485 490 495

Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu
500 505 510

Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe
515 520 525

Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser
530 535 540

Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser
545 550 555 560

Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp
565 570 575

Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr
580 585 590

Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn
595 600 605

Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro
610 615 620

Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr
625 630 635 640

Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu
645 650 655

Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val
660 665 670

Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys Ala Asp Asp

675

680

685

Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser
 690 695 700

Gln Ala Ala Leu Gly Leu Val Asp His His His His His His
 705 710 715

<210> 61
 <211> 2391
 <212> DNA
 <213> Homo sapiens

<400> 61
 atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc 60
 gccgaggcgt gcacatgctc gcccagccac ccccaggacg ccttctgcaa ctccgacatc 120
 gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggccctt cggcacgctg 180
 gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg 240
 tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac 300
 cagtacctgc tgacaggctc cgtctataat ggcacgatgt acacggggct gtgcaacttc 360
 gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac 420
 ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag 480
 aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa 540
 cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc 600
 ccggataaaa gcatcatcaa tgccacagac ccgatgcac acaagagtga ggttgctcat 660
 cgatttaaag atttgggaga agaaaatttc aaagccttgg tgttgattgc ctttgctcag 720
 tatcttcagc agtgtccatt tgaagatcat gtaaaattag tgaatgaagt aactgaattt 780
 gcaaaaacat gtgttgctga tgagtcagct gaaaattgtg acaaatcact tcataccctt 840
 tttggagaca aattatgcac agttgcaact cttcgtgaaa cctatggtga aatggctgac 900
 tgctgtgcaa aacaagaacc tgagagaaat gaatgcttct tgcaacacaa agatgacaac 960
 ccaaacctcc ccgattggt gagaccagag gttgatgtga tgtgcactgc ttttcatgac 1020
 aatgaagaga catTTTTgaa aaaatactta tatgaaattg ccagaagaca tccttacttt 1080
 tatgccccgg aactcctttt ctttgctaaa aggtataaag ctgctttttac agaatgttgc 1140

caagctgctg ataaagctgc ctgcctgttg ccaaagctcg atgaacttcg ggatgaaggg	1200
aaggcttcgt ctgccaaaca gagactcaag tgtgccagtc tccaaaaatt tggagaaaga	1260
gctttcaaag catgggcagt agctcgcctg agccagagat ttcccaaagc tgagtttgca	1320
gaagtttcca agttagtgac agatcttacc aaagtccaca cggaatgctg ccatggagat	1380
ctgcttgaat gtgctgatga cagggcggac cttgccaagt atatctgtga aaatcaagat	1440
tcgatctcca gtaaaactgaa ggaatgctgt gaaaaacctc tgttggaata atcccactgc	1500
attgccgaag tggaaaatga tgagatgcct gctgacttgc cttcattagc tgctgatttt	1560
gttgaaagta aggatgtttg caaaaactat gctgaggcaa aggatgtctt cctgggcatg	1620
tttttgatg aatatgcaag aaggcatcct gattactctg tcgtgctgct gctgagactt	1680
gccaagacat atgaaaccac tctagagaag tgctgtgccg ctgcagatcc tcatgaatgc	1740
tatgccaaag tgttcgaatg atttaaactt cttgtggaag agcctcagaa tttaatcaaa	1800
caaaattgtg agctttttga gcagcttgga gagtacaaat tccagaatgc gctattagtt	1860
cgttacacca agaaagtacc ccaactgtca actccaactc ttatcgaggt ctcaagaaac	1920
ctaggaaaag tgggcagcaa atgttgtaaa catcctgaag caaaaagaat gccctgtgca	1980
gaagactatc tatccgtggt cctgaaccag ttatgtgtgt tgcatgagaa aacgccagta	2040
agtgacagag tcaccaaagt ctgcacagaa tccttggtga acaggcgacc atgcttttca	2100
gctctggaag tcgatgaaac atacgtttcc aaagagttta cagctaacac attcaccttc	2160
catgcagata tatgcacact ttctgagaag gagagacaaa tcaagaaaca aactgtgctt	2220
gttgagctcg tgaaacacaa gccaaggca acaaaagagc aactgaaagc tgccatggat	2280
gatttcgcag cttttgtaga gaagtgtgctc aaggctgacg ataaggagac ctgcttttagc	2340
gaggagggtg aaaaacttgt tgcggccagt caggccgcct taggcttatg a	2391

<210> 62
 <211> 1326
 <212> DNA
 <213> Homo sapiens

<400> 62	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccagagac ctttctgcaa ctccgacatc	120

gtgatccggg ccagtgtggt ggggaagaag ctggtaaagg aggggcccaa tggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccata cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaaggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccggtggag gtggagacaa aactcacaca	660
tgtccccctg gccagcacc tgaactcctg gggggaccgt cagtcttcct cttccccca	720
aaaccaagg acaccctcat gatctcccg acccctgagg tcacatgcgt ggtggtggac	780
gtgagccacg aagaccctga ggtcaagttc aactggtacg tggacggcgt ggaggtgcat	840
aatgccaaga caaagccgcg agaggagcag tacaacagca cgtaccgtgt ggtcagcgtc	900
ctcaccgtcc tgcaccagga ctggctgaat ggcaaggagt acaagtcaa ggtctccaac	960
aaagccctcc cagccccat cgagaaaacc atctccaaag ccaaaggga gccccgagaa	1020
ccacaggtgt acaccctgcc cccatcccgg aaggagatga ccaagaacca ggtcagcctg	1080
acctgcctgg tcaaaggctt ctatcccagc gacatcgccg tggagtggga gagcaatggg	1140
cagccggaga acaactacaa gaccacgcct cccgtgctga agtccgacgg ctccttcttc	1200
ctctatagca agctcaccgt ggacaagagc aggtggcagc aggggaacgt cttctcatgc	1260
tccgtgatgc atgaggctct gcacaaccac tacacgcaga agagcctctc cctgtctccg	1320
ggtaaa	1326

<210> 63
 <211> 741
 <212> DNA
 <213> Homo sapiens

<400> 63	
atgggggtcaa ccgccatcct cgccctctc ctggctgttc tccaaggagt ctgcgctgac	60
aaaactcaca catgtccacc gtgcccagca cctgaactcc tggggggacc gtcagtcttc	120
ctcttcccc caaaaccaa ggacaccctc atgatctccc ggaccctga ggtcacatgc	180

gtggtggtgg acgtgagcca cgaagaccct gaggtcaagt tcaactggta cgtggacggc	240
gtggaggtgc ataatgccaa gacaaagccg cgggaggagc agtacaacag cacgtaccgt	300
gtggtcagcg tcctcaccgt cctgcaccag gactggctga atggcaagga gtacaagtgc	360
aaggtctcca acaaagccct cccagccccc atcgagaaaa ccatctccaa agccaaaggg	420
cagccccgag aaccacaggt gtacaccctg ccccatccc gggaggagat gaccaagaac	480
caggtcagcc tgacctgcct ggtcaaaggc ttctatccca gcgacatcgc cgtggagtgg	540
gagagcaatg ggcagccgga gaacaactac gacaccacgc ctcccgtgct ggactccgac	600
ggctccttct tcctctatag cgacctcacc gtggacaaga gcaggtggca gcaggggaac	660
gtcttctcat gctccgtgat gcatgaggct ctgcacaacc actacacgca gaagagcctc	720
tccctgtctc cgggtaaatg a	741

<210> 64
 <211> 1989
 <212> DNA
 <213> Homo sapiens

<400> 64	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ctttctgcaa ctccgacatc	120
tgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggccctt	600
ccggataaaa gcatcatcaa tgccacagac cccaggtgc agctgcagga gtcgggcccc	660
ggactggtga agccttcaca gaccctgtcc ctcacctgca ctgtctctgg tggctccatc	720
agcagtgggtg attacttctg gagctggatc cgccagctcc cagggaaggg cctggagtgg	780

attgggcaca tccataacag tgggaccacc tactacaatc cgtccctcaa gagtcgagtt	840
accatatcag tagacacgtc taagaagcag ttctccctga ggctgagttc tgtgactgcc	900
gcggacacgg ccgtatatatta ctgtgcgaga gatcgagggg gtgactacgc ttatggtatg	960
gacgtctggg gccaaaggac cacggtcacc gtctcctcag cctccaccaa gggcccatcc	1020
gtcttcccc tggcaccctc ctccaagagc acctctgggg gcacagcggc cctgggctgc	1080
ctggtcaagg actacttccc cgaaccggtg acgggtgtcgt ggaactcagg cgccctgacc	1140
agcggcgtgc acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc	1200
gtggtgaccg tgccctccag cagcttgggc acccagacct acatctgcaa cgtgaatcac	1260
aagcccagca acaccaaggt ggacaagaga gttgagccca aatcttgtga caaaactcac	1320
acatgcccac cgtgcccagc acctgaactc ctggggggac cgtcagtctt cctcttcccc	1380
ccaaaacca aggacaccct catgatctcc cggaccctg aggtcacatg cgtggtggtg	1440
gacgtgagcc acgaagacc tgaggtcaag ttcaactggt acgtggacgg cgtggaggtg	1500
cataatgcca agacaaagcc gcgggaggag cagtacaaca gcacgtaccg tgtggtcagc	1560
gtcctcaccg tcctgcacca ggactggctg aatggcaagg agtacaagtg caaggtctcc	1620
aacaaagccc tcccagcccc catcgagaaa accatctcca aagccaaagg gcagccccga	1680
gaaccacagg tgtacaccct gccccatcc cgggaggaga tgaccaagaa ccaggtcagc	1740
ctgacctgcc tgggtcaaagg cttctatccc agcgacatcg ccgtggagtg ggagagcaat	1800
gggcagccgg agaacaacta caagaccacg cctcccgtgc tggactccga cggctccttc	1860
ttcctctata gcaagctcac cgtggacaag agcaggtggc agcaggggaa cgtcttctca	1920
tgctccgtga tgcatgaggc tctgcacaac cactacacgc agaagagcct ctccctgtct	1980
ccgggtaaa	1989

<210> 65
 <211> 1278
 <212> DNA
 <213> Homo sapiens

<400> 65	
atgacctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccagagacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaat ctgacaaagg aggggccctt cggcacgctg	180

gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcactt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atggggccct	600
ccggataaaa gcatcatcaa tgccacagac cccgaaattg tgttgacgca gtctccaggc	660
accctgtctt tgtctccagg ggaaagagcc accctctcct gcagggccag tcagggtatt	720
agtagaagcg aattagcctg gtaccagcag aaacctggcc aggctcccag cctcctcatc	780
tatggtgcat ccagcagggc cactggcatc ccagacaggt tcagtggcag tgggtctggg	840
acagacttca ctctacccat cagcagactg gagcctgaag attttgagcgt gtattactgt	900
caacaatttg gtagttcacc gtggacgttc ggccaaggga ccaaggtgga aatcaaacga	960
actgtggctg caccatctgt cttcatcttc ccgccatctg atgagcagtt gaaatctgga	1020
actgctagcg ttgtgtgcct gctgaataac ttctatccca gagaggccaa agtacagtgg	1080
aaggtggata acgccctcca atcgggtaac tcccaggaga gtgtcacaga gcaggacagc	1140
aaggacagca cctacagcct cagcagcacc ctgacgctga gcaaagcaga ctacgagaaa	1200
cacaaagtct acgcctgcga agtcacccat cagggcctga gctcgcccgt cacaaagagc	1260
ttcaacaggg gagagtgt	1278

<210> 66
 <211> 1284
 <212> DNA
 <213> Homo sapiens

<400> 66	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggg ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc caatgtgacg	240

tacatccaca cggaagcttc cgagagtctc tgtggcctta atctgacggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctataat ggcacgatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tacgtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcggtt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccgcacctg aactcctggg gggaccgtca	660
gtcttcctct tcccccaaa acccaaggac accctcatga tctcccggac ccctgaggtc	720
acatgcgtgg tgggtggacgt gagccacgaa gaccctgagg tcaagttcaa ctggtacgtg	780
gacggcgtgg aggtgcataa tgccaagaca aagccgcggg aggagcagta caacagcacg	840
taccgtgtgg tcagcgtcct caccgtcctg caccaggact ggctgaatgg caaggagtac	900
aagtgaagg tctccaaca agccctcca gccccatcg agaaaaccat ctcaaagcc	960
aaagggcagc cccgagaacc acaggtgacc accctgcccc catcccggga ggagatgaac	1020
aagaccagg tcagcctgac ctgcctggtc aaaggcttct atcccagcga catcgccgtg	1080
gagtgggaga gcaatgggca gccggagaac aactacgaca ccacgcctcc cgtgctggac	1140
tccgacggct ctttcttct ctatagcgac ctaccgtgg acaagagcag gtggcagcag	1200
gggaacgtct tctcatgctc cgtgatgcat gaggctctgc acaaccacta cacgcagaag	1260
agcctctccc tgtctccggg taag	1284

<210> 67
 <211> 2409
 <212> DNA
 <213> Homo sapiens

<400> 67	
atgaccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccata cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360

gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaagggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccgatgcac acaagagtga ggttgctcat	660
cggtttaaag atttgggaga agaaaatttc aaagccttgg tgttgattgc ctttgctcag	720
tatcttcagc agtgtccatt tgaagatcat gtaaaattag tgaatgaagt aactgaattt	780
gcaaaaacat gtgttgctga tgagtcagct gaaaattgtg acaaactact tcataccctt	840
tttgagaca aattatgcac agttgcaact cttcgtgaaa cctatggtga aatggctgac	900
tgctgtgcaa aacaagaacc tgagagaaat gaatgcttct tgcaacacaa agatgacaac	960
ccaaacctcc cccgattggt gagaccagag gttgatgtga tgtgcactgc ttttcatgac	1020
aatgaagaga catttttgaa aaaatactta tatgaaattg ccagaagaca tccttacttt	1080
tatgccccgg aactcctttt ctttgctaaa aggtataaag ctgcttttac agaatgttgc	1140
caagctgctg ataaagctgc ctgcctgttg ccaaagctcg atgaacttcg ggatgaaggg	1200
aaggcttcgt ctgccaaca gagactcaag tgtgccagtc tccaaaaatt tggagaaaga	1260
gctttcaaag catgggcagt agctcgcctg agccagagat ttcccaaagc tgagtttgca	1320
gaagtttcca agttagtac agatcttacc aaagtccaca cggaatgctg ccatggagat	1380
ctgcttgaat gtgctgatga cagggcggac cttgccaagt atatctgtga aaatcaagat	1440
tcgatctcca gtaaaactgaa ggaatgctgt gaaaaacctc tgttgaaaa atcccactgc	1500
attgccgaag tggaaaatga tgagatgcct gctgacttgc cttcattagc tgctgatttt	1560
gttgaaagta aggatgtttg caaaaactat gctgaggcaa aggatgtctt cctgggcatg	1620
tttttgatg aatatgcaag aaggcatcct gattactctg tcgtgctgct gctgagactt	1680
gccaagacat atgaaaccac tctagagaag tgctgtgccg ctgcagatcc tcatgaatgc	1740
tatgccaag tgttcgaatg atttaaact cttgtggaag agcctcagaa tttaatacaa	1800
caaaattgtg agctttttga gcagcttgga gagtacaaat tccagaatgc gctattagtt	1860
cgttacacca agaaagtacc ccaagtgtca actccaactc ttgtagaggt ctcaagaaac	1920
ctaggaaaag tgggcagcaa atgttgtaaa catcctgaag caaaaagaat gccctgtgca	1980

gaagactatc tatccgtggt cctgaaccag ttatgtgtgt tgcatgagaa aacgccagta	2040
agtgacagag tcaccaaagtg ctgcacagaa tccttggtga acaggcgacc atgcttttca	2100
gctctggaag tcgatgaaac atacgttccc aaagagttta atgctgaaac attcaccttc	2160
catgcagata tatgcacact ttctgagaag gagagacaaa tcaagaaaca aactgcactt	2220
gttgagctcg tgaaacacaa gcccaggca acaaaagagc aactgaaagc tgttatggat	2280
gatttcgcag cttttgtaga gaagtgtgc aaggctgacg ataaggagac ctgctttgcc	2340
gaggagggtg aaaaacttgt tgctgcaagt caagctgcct taggcttaca tcatcatcat	2400
catcattga	2409

<210> 68
 <211> 2400
 <212> DNA
 <213> Homo sapiens

<400> 68	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ccttctgcaa ctccgacatc	120
gtgatccggg ccagtgtggt ggggaagaag ctggtaaagg aggggcccac tggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccata cggaagcttc cgagagtctc tgtggcctta agctggagggt caacaagtac	300
cagtacctgc tgacaggctc cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagagggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta actgcaagat caagtcctgc tactacctgc cttgctttgt gacttccaag	480
aacgagtgtc tctggaccga catgctctcc aatttcgggt accctggcta ccagtccaaa	540
cactacgcct gcatccggca gaaggcggc tactgcagct ggtaccgagg atgggcccc	600
ccggataaaa gcatcatcaa tgccacagac cccggtggag gtggagatgc acacaagagt	660
gaggttgctc atcggtttaa agatttggga gaagaaaatt tcaaagcctt ggtgttgatt	720
gcctttgctc agtatcttca gcagtgtcca tttgaagatc atgtaaaatt agtgaatgaa	780
gtaactgaat ttgcaaaaac atgtgttgct gatgagtcag ctgaaaattg tgacaaatca	840
cttcataccc tttttggaga caaattatgc acagttgcaa ctcttcgtga aacctatggt	900

gaaatggctg actgctgtgc aaaacaagaa cctgagagaa atgaatgctt cttgcaacac	960
aaagatgaca acccaaacct ccccgattg gtgagaccag aggttgatgt gatgtgcact	1020
gcttttcatg acaatgaaga gacatttttg aaaaaatact tatatgaaat tgccagaaga	1080
catccttact tttatgcccc ggaactcctt ttctttgcta aaaggtataa agctgctttt	1140
acagaatgtt gccaaagctg tgataaagct gcctgcctgt tgccaaagct cgatgaactt	1200
cgggatgaag ggaaggcttc gtctgccaaa cagagactca agtgtgccag tctccaaaaa	1260
tttggagaaa gagctttcaa agcatgggca gtagctcgcc tgagccagag atttccaaa	1320
gctgagtttg cagaagtttc caagttagtg acagatctta ccaaagtcca cacggaatgc	1380
tgccatggag atctgcttga atgtgctgat gacagggcgg accttgccaa gtatatctgt	1440
gaaaatcaag attcgatctc cagtaaactg aaggaatgct gtgaaaaacc tctgttggaa	1500
aaatcccact gcattgccga agtggaataat gatgagatgc ctgctgactt gccttcatta	1560
gctgctgatt ttgttgaaag taaggatgtt tgcaaaaact atgctgaggc aaaggatgtc	1620
ttcctgggca tgtttttgta tgaatatgca agaaggcatc ctgattactc tgtcgtgctg	1680
ctgctgagac ttgccaagac atatgaaacc actctagaga agtgctgtgc cgctgcagat	1740
cctcatgaat gctatgccaa agtgttcgat gaatttaaac ctcttgaggga agagcctcag	1800
aatttaatatca aacaaaattg tgagcttttt gagcagcttg gagagtacaa attccagaat	1860
gcgctattag ttcgttacac caagaaagta cccaagtgt caactccaac tctttagtag	1920
gtctcaagaa acctaggaaa agtgggcagc aaatgttgta aacatcctga agcaaaaaga	1980
atgccctgtg cagaagacta tctatccgtg gtcctgaacc agttatgtgt gttgcatgag	2040
aaaacgccag taagtacag agtcacaaa tgctgcacag aatccttggt gaacaggcga	2100
ccatgctttt cagctctgga agtcgatgaa acatacgttc ccaaagagtt taatgctgaa	2160
acattcacct tccatgcaga tatatgcaca ctttctgaga aggagagaca aatcaagaaa	2220
caactgcac ttgttgagct cgtgaaacac aagcccaagg caacaaaaga gcaactgaaa	2280
gctgttatgg atgatttcgc agcttttgta gagaagtgt gcaaggctga cgataaggag	2340
acctgctttg ccgaggaggg taaaaaactt gttgctgcaa gtcaagctgc cttaggctta	2400

<210> 69
 <211> 2223
 <212> DNA

<213> Homo sapiens

<400> 69

atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gcccagccac ccccaggacg ccttctgcaa ctccgacatc	120
gtgatccggg ccaaggtggt ggggaagaag ctggtaaagg aggggccctt cggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccaca cggaagcttc cgagagtctc tgtggcctta agctggaggt caacaagtac	300
cagtacctgc tgacaggtcg cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagaggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta acggtggagg tggagatgca cacaagagtg aggttgctca tcgatttaaa	480
gatttgggag aagaaaattt caaagccttg gtgttgattg cctttgctca gtatcttcag	540
cagtgtccat ttgaagatca tgtaaaatta gtgaatgaag taactgaatt tgcaaaaaca	600
tgtgttgctg atgagtcagc tgaaaattgt gacaaatcac ttcataccct ttttggagac	660
aaattatgca cagttgcaac tcttcgtgaa acctatgggtg aaatggctga ctgctgtgca	720
aaacaagaac ctgagagaaa tgaatgcttc ttgcaacaca aagatgacaa cccaaacctc	780
ccccgattgg tgagaccaga ggttgatgtg atgtgcactg cttttcatga caatgaagag	840
acatttttga aaaaatactt atatgaaatt gccagaagac atccttactt ttatgccccg	900
gaactccttt tctttgctaa aaggatataa gctgctttta cagaatgttg ccaagctgct	960
gataaagctg cctgcctggt gccaaagctc gatgaacttc gggatgaagg gaaggcttcg	1020
tctgccaac agagactcaa gtgtgccagt ctccaaaaat ttggagaaag agctttcaaa	1080
gcatgggcag tagctcgctt gagccagaga tttcccaaag ctgagtttgc agaagtttcc	1140
aagttagtga cagatcttac caaagtccac acggaatgct gccatggaga tctgcttgaa	1200
tgtgctgatg acagggcgga ccttgccaag tatatctgtg aaaatcaaga ttcgatctcc	1260
agtaaaactga aggaatgctg tgaaaaacct ctgttggaag aatcccactg cattgccgaa	1320
gtggaaaatg atgagatgcc tgctgacttg ctttcattag ctgctgattt tgttgaaagt	1380
aaggatgttt gcaaaaacta tgctgaggca aaggatgtct tcctgggcat gtttttgtat	1440
gaatatgcaa gaaggcatcc tgattactct gtcgtgctgc tgctgagact tgccaagaca	1500
tatgaaacca ctctagagaa gtgctgtgcc gctgcagatc ctcataaatg ctatgccaaa	1560

gtgttcgatg aatttaaacc tcttgtggaa gagcctcaga atttaaatcaa acaaaattgt	1620
gagctttttg agcagcttgg agagtacaaa ttccagaatg cgctattagt tcgttacacc	1680
aagaaagtac cccaagtgtc aactccaact cttgtagagg tctcaagaaa cctaggaaaa	1740
gtgggcagca aatgttgtaa acatcctgaa gcaaaaagaa tgccctgtgc agaagactat	1800
ctatccgtgg tcctgaacca gttatgtgtg ttgcatgaga aaacgccagt aagtgcaga	1860
gtcaccaa at gctgcacaga atccttggtg aacaggcgac catgcttttc agctctggaa	1920
gtcgaatgaaa catacgttcc caaagagttt aatgctgaaa cattcacctt ccatgcagat	1980
atatgcacac tttctgagaa ggagagacaa atcaagaaac aaactgcact tgttgagctc	2040
gtgaaacaca agcccaaggc aacaaaagag caactgaaag ctgttatgga tgatttcgca	2100
gctttttagtag agaagtgtg caaggctgac gataaggaga cctgctttgc cgaggagggt	2160
aaaaaacttg ttgcggccag tcaggccgcc ttaggcttag tcgaccatca tcatcatcat	2220
cat	2223

<210> 70
 <211> 2223
 <212> DNA
 <213> Homo sapiens

<400> 70	
atgacccctt ggctcgggct catcgtgctc ctgggcagct ggagcctggg ggactggggc	60
gccgaggcgt gcacatgctc gccagccac cccaggacg ctttctgcaa ctccgacatc	120
gtgatccggg ccagtgtggt ggggaagaag ctggtaaagg aggggcccaa tggcacgctg	180
gtctacacca tcaagcagat gaagatgtac cgaggcttca ccaagatgcc ccatgtgcag	240
tacatccata cggaagcttc cgagagtctc tgtggcctta agctggagggt caacaagtac	300
cagtacctgc tgacaggctc cgtctatgat ggcaagatgt acacggggct gtgcaacttc	360
gtggagagggt gggaccagct caccctctcc cagcgcaagg ggctgaacta tcggtatcac	420
ctgggttgta acggtggagg tggagatgca cacaagagtg aggttgctca tcgatttaaa	480
gatttgggag aagaaaattt caaagccttg gtgttgattg cttttgctca gtatcttcag	540
cagtgtccat ttgaagatca tgtaaaatta gtgaatgaag taactgaatt tgcaaaaaca	600
tgtgttgctg atgagtcagc tgaaaattgt gacaaatcac ttcataccct ttttgagac	660

aaattatgca cagttgcaac tcttcgtgaa acctatggtg aaatggctga ctgctgtgca	720
aaacaagaac ctgagagaaa tgaatgcttc ttgcaacaca aagatgacaa cccaaacctc	780
ccccgattgg tgagaccaga ggttgatgtg atgtgcactg cttttcatga caatgaagag	840
acatttttga aaaaatactt atatgaaatt gccagaagac atccttactt ttatgccccg	900
gaactccttt tctttgctaa aaggtataaa gctgctttta cagaatgttg ccaagctgct	960
gataaagctg cctgcctgtt gccaaagctc gatgaacttc gggatgaagg gaaggcttcg	1020
tctgccaaac agagactcaa gtgtgccagt ctccaaaaat ttggagaaag agctttcaaa	1080
gcatgggcag tagctgcct gagccagaga tttcccaaag ctgagtttgc agaagtttcc	1140
aagttagtga cagatcttac caaagtccac acggaatgct gccatggaga tctgcttgaa	1200
tgtgctgatg acagggcgga ccttgccaag tatatctgtg aaaatcaaga ttcgatctcc	1260
agtaaaactga aggaatgctg tgaaaaacct ctgttggaag aatcccactg cattgccgaa	1320
gtggaaaatg atgagatgcc tgctgacttg ctttcattag ctgctgattt tgttgaaagt	1380
aaggatgttt gcaaaaacta tgctgaggca aaggatgtct tcctgggcat gtttttgtat	1440
gaatatgcaa gaaggcatcc tgattactct gtcgtgctgc tgctgagact tgccaagaca	1500
tatgaaacca ctctagagaa gtgctgtgcc gctgcagatc ctcatgaatg ctatgccaaa	1560
gtgttcgatg aatttaaacc tcttgtggaa gagcctcaga atttaaatcaa acaaaattgt	1620
gagctttttg agcagcttgg agagtacaaa ttccagaatg cgctattagt tcgttacacc	1680
aagaaagtac cccaagtgtc aactccaact cttgtagagg tctcaagaaa cctaggaaaa	1740
gtgggcagca aatgttgtaa acatcctgaa gcaaaaagaa tgccctgtgc agaagactat	1800
ctatccgtgg tcctgaacca gttatgtgtg ttgcatgaga aaacgccagt aagtgcaga	1860
gtcaccaaat gctgcacaga atccttggtg aacaggcgac catgcttttc agctctggaa	1920
gtcgaatgaaa catacgttcc caaagagttt aatgctgaaa cattcacctt ccatgcagat	1980
atatgcacac tttctgagaa ggagagacaa atcaagaaac aaactgcact tgttgagctc	2040
gtgaaacaca agcccaaggc aacaaaagag caactgaaag ctgttatgga tgatttcgca	2100
gctttttag agaatgctg caaggctgac gataaggaga cctgctttgc cgaggagggt	2160
aaaaaacttg ttgcggccag tcaggccgcc ttaggcttag tcgaccatca tcatcatcat	2220
cat	2223

<210> 71
<211> 585
<212> PRT
<213> Homo sapiens

<400> 71

Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
1 5 10 15

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
20 25 30

Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
35 40 45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
50 55 60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65 70 75 80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
85 90 95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
100 105 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
115 120 125

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

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145 150 155 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
165 170 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
180 185 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
195 200 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
210 215 220

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

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
245 250 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
260 265 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
275 280 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
290 295 300

Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305 310 315 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
325 330 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Arg Leu Ala Lys Thr
340 345 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
355 360 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
370 375 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385 390 395 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
405 410 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
420 425 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
435 440 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
450 455 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465 470 475 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
485 490 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
500 505 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
515 520 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
530 535 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545 550 555 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
565 570 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu
580 585

<210> 72

<211> 227

<212> PRT

<213> Homo sapiens

<400> 72

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
1 5 10 15

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
20 25 30

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
35 40 45

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
50 55 60

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
65 70 75 80

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
85 90 95

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
100 105 110

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
115 120 125

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
130 135 140

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
145 150 155 160

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
165 170 175

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
180 185 190

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
195 200 205

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser

210

215

220

Pro Gly Lys
225

<210> 73
<211> 217
<212> PRT
<213> Homo sapiens

<400> 73

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
1 5 10 15

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
20 25 30

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
35 40 45

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
50 55 60

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
65 70 75 80

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
85 90 95

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
100 105 110

Pro Arg Glu Pro Gln Val Thr Thr Leu Pro Pro Ser Arg Glu Glu Met
115 120 125

Asn Lys Thr Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
130 135 140

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
145 150 155 160

Tyr Asp Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
165 170 175

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

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
195 200 205

Lys Ser Leu Ser Leu Ser Pro Gly Lys
210 215

<210> 74
<211> 212
<212> PRT
<213> Homo sapiens

<400> 74

Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
1 5 10 15

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
20 25 30

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
35 40 45

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
50 55 60

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
65 70 75 80

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

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
100 105 110

Val Thr Thr Leu Pro Pro Ser Arg Glu Glu Met Asn Lys Thr Gln Val
115 120 125

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
130 135 140

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Asp Thr Thr Pro
145 150 155 160

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Asp Leu Thr
165 170 175

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
180 185 190

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
195 200 205

Ser Pro Gly Lys
210

<210> 75
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker

<400> 75

Glu Pro Lys Ser Ser
1 5