SEQUENCE LISTING

<110> Bristol-Myers Squibb Company

<120> Modified FGF-21 Polypeptides and Uses Thereof

<130> 43270.2213

<141> 2015-10-23

<150> US 62/068,296
<151> 2014-10-24

<150> US 62/068,514
<151> 2014-10-24

<150> US 62/068,523
<151> 2014-10-24

<150> US 62/068,526
<151> 2014-10-24

<150> US 62/068,534
<151> 2014-10-24

<150> US 62/141,337
<151> 2015-04-01

<150> US 62/141,383
<151> 2015-04-01

<160> 487

<170> PatentIn version 3.5

<210> 1
<211> 181
<212> PRT
<213> Homo sapiens

<400> 1

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln

50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser
180

<210> 2
<211> 191
<212> PRT
<213> Homo sapiens

<400> 2

Met His His His His His His Ser Gly Gly His Pro Ile Pro Asp Ser
1 5 10 15

Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr
20 25 30

Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp
35 40 45

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

50 55 60

Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr
65 70 75 80

Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu
85 90 95

His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp
100 105 110

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

Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro Ala
130 135 140

Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro
145 150 155 160

Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu
165 170 175

Ser Met Val Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
180 185 190

<210> 3
<211> 209
<212> PRT
<213> Homo sapiens

<400> 3

Met Asp Ser Asp Glu Thr Gly Phe Glu His Ser Gly Leu Trp Val Ser
1 5 10 15

Val Leu Ala Gly Leu Leu Leu Gly Ala Cys Gln Ala His Pro Ile Pro
20 25 30

Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr
35 40 45

Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg

50 55 60

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

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
85 90 95

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

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
115 120 125

Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu
130 135 140

His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly
145 150 155 160

Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu
165 170 175

Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp
180 185 190

Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
195 200 205

Ser

<210> 4
<211> 208
<212> PRT
<213> Homo sapiens

<400> 4

Met Asp Ser Asp Glu Thr Gly Phe Glu His Ser Gly Leu Trp Val Ser
1 5 10 15

Val Leu Ala Gly Leu Leu Gly Ala Cys Gln Ala His Pro Ile Pro Asp

20 25 30

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
35 40 45

Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu
50 55 60

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

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
85 90 95

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

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
115 120 125

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
130 135 140

Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro
145 150 155 160

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
165 170 175

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
180 185 190

Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
195 200 205

<210> 5
<211> 181
<212> PRT
<213> Homo sapiens

<400> 5

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val

1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Leu Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser
180

<210> 6
<211> 209
<212> PRT
<213> Homo sapiens

<400> 6

Met Asp Ser Asp Glu Thr Gly Phe Glu His Ser Gly Leu Trp Val Ser

1 5 10 15

Val Leu Ala Gly Leu Leu Leu Gly Ala Cys Gln Ala His Pro Ile Pro
20 25 30

Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr
35 40 45

Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg
50 55 60

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

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
85 90 95

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

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
115 120 125

Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu
130 135 140

His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly
145 150 155 160

Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Leu Pro Glu
165 170 175

Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp
180 185 190

Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
195 200 205

Ser

<210> 7
<211> 208
<212> PRT
<213> Homo sapiens

<400> 7

Met Asp Ser Asp Glu Thr Gly Phe Glu His Ser Gly Leu Trp Val Ser
1 5 10 15

Val Leu Ala Gly Leu Leu Gly Ala Cys Gln Ala His Pro Ile Pro Asp
20 25 30

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
35 40 45

Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu
50 55 60

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

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
85 90 95

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

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
115 120 125

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
130 135 140

Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro
145 150 155 160

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Leu Pro Glu Pro
165 170 175

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
180 185 190

Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
195 200 205

<210> 8
<211> 546
<212> DNA
<213> Homo sapiens

<400> 8
cacccatcc ctgactccag tcctctcctg caattcgggg gccaagtccg gcagcggtac 60

ctctacacag atgatgccca gcagacagaa gcccacctgg agatcaggga ggatgggacg 120

gtgggggcg ctgctgacca gagccccgaa agtctcctgc agctgaaagc cttgaagccg 180

ggagttattc aaatcttggg agtcaagaca tccaggttcc tgtgccagcg gccagatggg 240

gccctgtatg gatcgctcca ctttgaccct gaggcctgca gcttccggga gctgcttctt 300

gaggacggat acaatgttta ccagtccgaa gcccacggcc tcccgctgca cctgccaggg 360

aacaagtccc cacaccggga ccctgcaccc cgaggaccag ctcgcttcct gccactacca 420

ggcctgcccc ccgcaccccc ggagccaccc ggaatcctgg ccccccagcc ccccgatgtg 480

ggctcctcgg accctctgag catggtggga ccttcccagg gccgaagccc cagctacgct 540

tcctga 546

<210> 9
<211> 576
<212> DNA
<213> Homo sapiens

<400> 9
atgcatcatc atcatcatca tagcggcggc cacccatcc ctgactccag tcctctcctg 60

caattcgggg gccaagtccg gcagcggtac ctctacacag atgatgccca gcagacagaa 120

gcccacctgg agatcaggga ggatgggacg gtgggggcg ctgctgacca gagccccgaa 180

agtctcctgc agctgaaagc cttgaagccg ggagttattc aaatcttggg agtcaagaca 240

tccaggttcc tgtgccagcg gccagatggg gccctgtatg gatcgctcca ctttgaccct 300

gaggcctgca gcttccggga gctgcttctt gaggacggat acaatgttta ccagtccgaa 360

gcccacggcc tcccgctgca cctgccaggg aacaagtccc cacaccggga ccctgcaccc 420

cgaggaccag ctcgcttcct gccactacca ggcctgcccc ccgcaccccc ggagccaccc 480

ggaatcctgg cccccccagcc ccccgatgtg ggctcctcgg accctctgag catggtggga 540

ccttcccagg gccgaagccc cagctacgct tcctga 576

<210> 10
<211> 630
<212> DNA
<213> Homo sapiens

<400> 10
atggactcgg acgagaccgg gttcgagcac tcaggactgt gggtttctgt gctggctggt 60

cttctgctgg gagcctgcca ggcacacccc atccctgact ccagtcctct cctgcaattc 120

gggggccaag tccggcagcg gtacctctac acagatgatg cccagcagac agaagcccac 180

ctggagatca gggaggatgg gacggtgggg ggcgctgctg accagagccc cgaaagtctc 240

ctgcagctga aagccttgaa gccgggagtt attcaaatct tgggagtcaa gacatccagg 300

ttcctgtgcc agcggccaga tggggccctg tatggatcgc tccactttga ccctgaggcc 360

tgcagcttcc gggagctgct tcttgaggac ggatacaatg tttaccagtc cgaagcccac 420

ggcctcccgc tgcacctgcc agggaacaag tccccacacc gggaccctgc accccgagga 480

ccagctcgct tcctgccact accaggcctg ccccccgcac ccccggagcc acccggaatc 540

ctggcccccc agccccccga tgtgggctcc tcggaccctc tgagcatggt gggaccttcc 600

cagggccgaa gccccagcta cgcttcctga 630

<210> 11
<211> 627
<212> DNA
<213> Homo sapiens

<400> 11
atggactcgg acgagaccgg gttcgagcac tcaggactgt gggtttctgt gctggctggt 60

cttctgggag cctgccaggc acaccccatc cctgactcca gtcctctcct gcaattcggg 120

ggccaagtcc ggcagcggta cctctacaca gatgatgccc agcagacaga agcccacctg 180

gagatcaggg aggatgggac ggtgggggggc gctgctgacc agagccccga aagtctcctg 240

cagctgaaag ccttgaagcc gggagttatt caaatcttgg gagtcaagac atccaggttc 300

ctgtgccagc ggccagatgg ggccctgtat ggatcgctcc actttgaccc tgaggcctgc 360

agcttccggg agctgcttct tgaggacgga tacaatgttt accagtccga agcccacggc 420

ctcccgctgc acctgccagg gaacaagtcc ccacaccggg accctgcacc ccgaggacca 480

gctcgcttcc tgccactacc aggcctgccc cccgcacccc cggagccacc cggaatcctg 540

gccccccagc cccccgatgt gggctcctcg gaccctctga gcatggtggg accttcccag 600

ggccgaagcc ccagctacgc ttcctga 627

<210> 12
<211> 545
<212> DNA
<213> homo sapiens

<400> 12
caccccatcc ctgactccag tcctctcctg caattcgggg gccaagtccg gcagcggtac 60

ctctacacag atgatgccca gcagacagaa gcccacctgg agatcaggga ggatgggacg 120

gtgggggggcg ctgctgacca gagccccgaa agtctcctgc agctgaaagc cttgaagccg 180

ggagttattc aaatcttggg agtcaagaca tccaggttcc tgtgccagcg gccagatggg 240

gccctgtatg gatcgctcca ctttgaccct gaggcctgca gcttccggga gctgcttctt 300

gaggacggat acaatgttta ccagtccgaa gcccacggcc tcccgctgca cctgccaggg 360

aacaagtccc cacaccggga ccctgcaccc cgaggaccag ctcgcttcct gccactacca 420

ggcctgcccc ccgcactccc ggagccaccc ggaatcctgg ccccccagcc ccccgatgtg 480

ggctcctcgg accctctgag catggtggga ccttcccagg gccgaagccc agctacgctt 540

cctga 545

<210> 13
<211> 630
<212> DNA
<213> Homo sapiens

<400> 13
atggactcgg acgagaccgg gttcgagcac tcaggactgt gggtttctgt gctggctggt 60

cttctgctgg gagcctgcca ggcacacccc atccctgact ccagtcctct cctgcaattc 120

gggggccaag tccggcagcg gtacctctac acagatgatg cccagcagac agaagcccac 180

ctggagatca gggaggatgg gacggtgggg ggcgctgctg accagagccc cgaaagtctc 240

ctgcagctga aagccttgaa gccgggagtt attcaaatct tgggagtcaa gacatccagg 300

ttcctgtgcc agcggccaga tggggccctg tatggatcgc tccactttga ccctgaggcc 360

tgcagcttcc gggagctgct tcttgaggac ggatacaatg tttaccagtc cgaagcccac 420

ggcctcccgc tgcacctgcc agggaacaag tccccacacc gggaccctgc accccgagga 480

ccagctcgct tcctgccact accaggcctg ccccccgcac tcccggagcc acccggaatc 540

ctggcccccc agccccccga tgtgggctcc tcggaccctc tgagcatggt gggaccttcc 600

cagggccgaa gccccagcta cgcttcctga 630

<210> 14
<211> 627
<212> DNA
<213> Homo sapiens

<400> 14
atggactcgg acgagaccgg gttcgagcac tcaggactgt gggtttctgt gctggctggt 60

cttctgggag cctgccaggc acaccccatc cctgactcca gtcctctcct gcaattcggg 120

ggccaagtcc ggcagcggta cctctacaca gatgatgccc agcagacaga agcccacctg 180

gagatcaggg aggatgggac ggtgggggggc gctgctgacc agagccccga aagtctcctg 240

cagctgaaag ccttgaagcc gggagttatt caaatcttgg gagtcaagac atccaggttc 300

ctgtgccagc ggccagatgg ggccctgtat ggatcgctcc actttgaccc tgaggcctgc 360

agcttccggg agctgcttct tgaggacgga tacaatgttt accagtccga agcccacggc 420

ctcccgctgc acctgccagg gaacaagtcc ccacaccggg accctgcacc ccgaggacca 480

gctcgcttcc tgccactacc aggcctgccc cccgcactcc cggagccacc cggaatcctg 540

gccccccagc cccccgatgt gggctcctcg gaccctctga gcatggtggg accttcccag 600

ggccgaagcc ccagctacgc ttcctga 627

<210> 15
<211> 77
<212> DNA
<213> Artificial

<220>
<223> Mutant tRNA derived from Methanococcus jannaschii tRNA

<400> 15
ccggcggtag ttcagcaggg cagaacggcg gactctaaat ccgcatggcg ctggttcaaa 60

tccagcccgc cggacca 77

<210> 16
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Mutant synthetase derived from Methanococcus jannaschii synthetase

<400> 16

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Val
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Tyr Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu His Gly Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Ile His
145 150 155 160

Tyr Glu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser

195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 17
<211> 77
<212> DNA
<213> Methanococcus jannaschii

<400> 17
ccggcggtag ttcagcaggg cagaacggcg gactctaaat ccgcatggcg ctggttcaaa 60

tccggcccgc cggacca 77

<210> 18
<211> 88
<212> DNA
<213> Artificial

<220>
<223> An optimized amber supressor tRNA

<400> 18
cccagggtag ccaagctcgg ccaacggcga cggactctaa atccgttctc gtaggagttc 60

gagggttcga atcccttccc tgggacca 88

<210> 19
<211> 89
<212> DNA
<213> Artificial

<220>
<223> An optimized AGGA frameshift supressor tRNA

<400> 19
gcgagggtag ccaagctcgg ccaacggcga cggacttcct aatccgttct cgtaggagtt 60

cgagggttcg aatccctccc ctcgcacca 89

<210> 20
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-L-phenylalanine

<400> 20

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

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

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Thr Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys

115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Thr Tyr Tyr
145 150 155 160

Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 21
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-benzoyl-L-phenylalanine

<400> 21

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

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

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Ser Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Thr Ser His
145 150 155 160

Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 22
<211> 305
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of propargyl-phenylalanine

<400> 22

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Pro Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Ala Ile Tyr
145 150 155 160

Leu Ala Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile His
165 170 175

Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His Asn
180 185 190

Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser Lys
195 200 205

Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala Lys
210 215 220

Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro Ile
225 230 235 240

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

Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu Leu
260 265 270

Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys Asn
275 280 285

Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys Arg
290 295 300

Leu
305

<210> 23
<211> 305
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of propargyl-phenylalanine

<400> 23

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Pro Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Ile Pro Tyr
145 150 155 160

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

Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His Asn
180 185 190

Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser Lys
195 200 205

Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala Lys
210 215 220

Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro Ile
225 230 235 240

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

Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu Leu
260 265 270

Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys Asn
275 280 285

Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys Arg
290 295 300

Leu
305

<210> 24
<211> 305
<212> PRT
<213> Artificial

<220>

<223> Aminoacyl tRNA synthetase for the incorporation of propargyl-phenylalanine

<400> 24

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Lys Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Ala Ile Tyr
145 150 155 160

Leu Ala Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile His
165 170 175

Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His Asn
180 185 190

Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser Lys
195 200 205

Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala Lys
210 215 220

Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro Ile
225 230 235 240

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

Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu Leu
260 265 270

Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys Asn
275 280 285

Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys Arg
290 295 300

Leu
305

<210> 25
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 25

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Thr
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Asn Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Leu His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys

275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 26
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 26

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Thr
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Ser Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro

130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Leu His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 27
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 27

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Thr Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Val His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 28
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 28

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Thr
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Ser Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Pro Ser His
145 150 155 160

Tyr Gln Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 29
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of p-acetyl-phenylalanine

<400> 29

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

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

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Cys His
145 150 155 160

Tyr Arg Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 30
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of p-acetyl
-phenylalanine

<400> 30

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

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

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Thr His
145 150 155 160

Tyr Arg Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 31
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of p-acetyl-phenylalanine

<400> 31

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

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

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Gly Gly His
145 150 155 160

Tyr Leu Gly Val Asp Val Ile Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys

290 295 300

Arg Leu
305

<210> 32
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 32

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser
1 5 10 15

Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Ala
20 25 30

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

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

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Val Ile His

145 150 155 160

Tyr Asp Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 33
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Aminoacyl tRNA synthetase for the incorporation of
p-azido-phenylalanine

<400> 33

Met Asp Glu Phe Glu Met Ile Lys Arg Asn Thr Ser Glu Ile Ile Ser

1 5 10 15

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

Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
35 40 45

Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
50 55 60

Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
65 70 75 80

Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
85 90 95

Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Thr Phe Gln Leu Asp Lys
100 105 110

Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
115 120 125

Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
130 135 140

Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Thr Tyr Tyr
145 150 155 160

Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
165 170 175

His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
180 185 190

Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
195 200 205

Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
210 215 220

Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
225 230 235 240

Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
245 250 255

Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
260 265 270

Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
275 280 285

Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
290 295 300

Arg Leu
305

<210> 34
<211> 208
<212> PRT
<213> Rattus norvegicus

<400> 34

Met Asp Trp Met Lys Ser Arg Val Gly Ala Pro Gly Leu Trp Val Cys
1 5 10 15

Leu Leu Leu Pro Val Phe Leu Leu Gly Val Cys Glu Ala Tyr Pro Ile
20 25 30

Ser Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg
35 40 45

Tyr Leu Tyr Thr Asp Asp Asp Gln Asp Thr Glu Ala His Leu Glu Ile
50 55 60

Arg Glu Asp Gly Thr Val Val Gly Thr Ala His Arg Ser Pro Glu Ser
65 70 75 80

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

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

Gly Ser Pro His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu
115 120 125

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

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

Val Arg Phe Leu Pro Met Pro Gly Leu Pro His Glu Pro Gln Glu Gln
165 170 175

Pro Gly Val Leu Pro Pro Glu Pro Pro Asp Val Gly Ser Ser Asp Pro
180 185 190

Leu Ser Met Val Glu Pro Leu Gln Gly Arg Ser Pro Ser Tyr Ala Ser
195 200 205

<210> 35
<211> 210
<212> PRT
<213> Mus musculus

<400> 35

Met Glu Trp Met Arg Ser Arg Val Gly Thr Leu Gly Leu Trp Val Arg
1 5 10 15

Leu Leu Leu Ala Val Phe Leu Leu Gly Val Tyr Gln Ala Tyr Pro Ile
20 25 30

Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg
35 40 45

Tyr Leu Tyr Thr Asp Asp Asp Gln Asp Thr Glu Ala His Leu Glu Ile
50 55 60

Arg Glu Asp Gly Thr Val Val Gly Ala Ala His Arg Ser Pro Glu Ser
65 70 75 80

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

Val Lys Ala Ser Arg Phe Leu Cys Gln Gln Pro Asp Gly Ala Leu Tyr
100 105 110

Gly Ser Pro His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu
115 120 125

Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro
130 135 140

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

Gly Pro Val Arg Phe Leu Pro Met Pro Gly Leu Leu His Glu Pro Gln
165 170 175

Asp Gln Ala Gly Phe Leu Pro Pro Glu Pro Pro Asp Val Gly Ser Ser
180 185 190

Asp Pro Leu Ser Met Val Glu Pro Leu Gln Gly Arg Ser Pro Ser Tyr
195 200 205

Ala Ser
210

<210> 36
<211> 194
<212> PRT
<213> Danio rerio

<400> 36

Met Leu Phe Ala Cys Phe Phe Ile Phe Phe Ala Leu Phe Pro His Leu
1 5 10 15

Arg Trp Cys Met Tyr Val Pro Ala Gln Asn Val Leu Leu Gln Phe Gly
20 25 30

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

Met Asn Pro Asp Gly Ser Val Lys Gly Ser Pro Glu Lys Asn Leu Asn
50 55 60

Cys Val Leu Glu Leu Arg Ser Val Lys Ala Gly Glu Thr Val Ile Gln
65 70 75 80

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

Lys Gly Gln His His Tyr Ser Ala Leu Asp Cys Thr Phe Gln Glu Leu
100 105 110

Leu Leu Asp Gly Tyr Ser Phe Phe Leu Ser Pro His Thr Asn Leu Pro
115 120 125

Val Ser Leu Leu Ser Lys Arg Gln Lys His Gly Asn Pro Leu Ser Arg
130 135 140

Phe Leu Pro Val Ser Arg Ala Glu Asp Ser Arg Thr Gln Glu Val Lys
145 150 155 160

Gln Tyr Ile Gln Asp Ile Asn Leu Asp Ser Asp Asp Pro Leu Gly Met
165 170 175

Gly His Arg Ser His Leu Gln Thr Val Phe Ser Pro Ser Leu His Thr
180 185 190

Lys Lys

<210> 37
<211> 1043
<212> PRT
<213> Homo sapiens

<400> 37

Met Lys Pro Gly Cys Ala Ala Gly Ser Pro Gly Asn Glu Trp Ile Phe
1 5 10 15

Phe Ser Thr Asp Glu Ile Thr Thr Arg Tyr Arg Asn Thr Met Ser Asn
20 25 30

Gly Gly Leu Gln Arg Ser Val Ile Leu Ser Ala Leu Ile Leu Leu Arg
35 40 45

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

Pro Asn Phe Thr Pro Val Asn Glu Ser Gln Leu Phe Leu Tyr Asp Thr
65 70 75 80

Phe Pro Lys Asn Phe Phe Trp Gly Ile Gly Thr Gly Ala Leu Gln Val
85 90 95

Glu Gly Ser Trp Lys Lys Asp Gly Lys Gly Pro Ser Ile Trp Asp His
100 105 110

Phe Ile His Thr His Leu Lys Asn Val Ser Ser Thr Asn Gly Ser Ser
115 120 125

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

Gly Val Ser Phe Tyr Gln Phe Ser Ile Ser Trp Pro Arg Leu Phe Pro
145 150 155 160

Asp Gly Ile Val Thr Val Ala Asn Ala Lys Gly Leu Gln Tyr Tyr Ser
165 170 175

Thr Leu Leu Asp Ala Leu Val Leu Arg Asn Ile Glu Ile Val Thr Leu
180 185 190

Tyr His Trp Asp Leu Pro Leu Ala Leu Gln Glu Lys Tyr Gly Gly Trp
195 200 205

Lys Asn Asp Thr Ile Ile Asp Ile Phe Asn Asp Tyr Ala Thr Tyr Cys
210 215 220

Phe Gln Met Phe Gly Asp Arg Val Lys Tyr Trp Ile Thr Ile His Asn
225 230 235 240

Pro Tyr Leu Val Ala Trp His Gly Tyr Gly Thr Gly Met His Ala Pro
245 250 255

Gly Glu Lys Gly Asn Leu Ala Ala Val Tyr Thr Val Gly His Asn Leu
260 265 270

Ile Lys Ala His Ser Lys Val Trp His Asn Tyr Asn Thr His Phe Arg
275 280 285

Pro His Gln Lys Gly Trp Leu Ser Ile Thr Leu Gly Ser His Trp Ile
290 295 300

Glu Pro Asn Arg Ser Glu Asn Thr Met Asp Ile Phe Lys Cys Gln Gln
305 310 315 320

Ser Met Val Ser Val Leu Gly Trp Phe Ala Asn Pro Ile His Gly Asp
325 330 335

Gly Asp Tyr Pro Glu Gly Met Arg Lys Lys Leu Phe Ser Val Leu Pro
340 345 350

Ile Phe Ser Glu Ala Glu Lys His Glu Met Arg Gly Thr Ala Asp Phe
355 360 365

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

Ala Lys Met Gly Gln Asn Val Ser Leu Asn Leu Arg Glu Ala Leu Asn
385 390 395 400

Trp Ile Lys Leu Glu Tyr Asn Asn Pro Arg Ile Leu Ile Ala Glu Asn
405 410 415

Gly Trp Phe Thr Asp Ser Arg Val Lys Thr Glu Asp Thr Thr Ala Ile
420 425 430

Tyr Met Met Lys Asn Phe Leu Ser Gln Val Leu Gln Ala Ile Arg Leu
435 440 445

Asp Glu Ile Arg Val Phe Gly Tyr Thr Ala Trp Ser Leu Leu Asp Gly
450 455 460

Phe Glu Trp Gln Asp Ala Tyr Thr Ile Arg Arg Gly Leu Phe Tyr Val
465 470 475 480

Asp Phe Asn Ser Lys Gln Lys Glu Arg Lys Pro Lys Ser Ser Ala His
485 490 495

Tyr Tyr Lys Gln Ile Ile Arg Glu Asn Gly Phe Ser Leu Lys Glu Ser
500 505 510

Thr Pro Asp Val Gln Gly Gln Phe Pro Cys Asp Phe Ser Trp Gly Val
515 520 525

Thr Glu Ser Val Leu Lys Pro Glu Ser Val Ala Ser Ser Pro Gln Phe
530 535 540

Ser Asp Pro His Leu Tyr Val Trp Asn Ala Thr Gly Asn Arg Leu Leu
545 550 555 560

His Arg Val Glu Gly Val Arg Leu Lys Thr Arg Pro Ala Gln Cys Thr
565 570 575

Asp Phe Val Asn Ile Lys Lys Gln Leu Glu Met Leu Ala Arg Met Lys
580 585 590

Val Thr His Tyr Arg Phe Ala Leu Asp Trp Ala Ser Val Leu Pro Thr
595 600 605

Gly Asn Leu Ser Ala Val Asn Arg Gln Ala Leu Arg Tyr Tyr Arg Cys
610 615 620

Val Val Ser Glu Gly Leu Lys Leu Gly Ile Ser Ala Met Val Thr Leu
625 630 635 640

Tyr Tyr Pro Thr His Ala His Leu Gly Leu Pro Glu Pro Leu Leu His
645 650 655

Ala Asp Gly Trp Leu Asn Pro Ser Thr Ala Glu Ala Phe Gln Ala Tyr
660 665 670

Ala Gly Leu Cys Phe Gln Glu Leu Gly Asp Leu Val Lys Leu Trp Ile
675 680 685

Thr Ile Asn Glu Pro Asn Arg Leu Ser Asp Ile Tyr Asn Arg Ser Gly

690 695 700

Asn Asp Thr Tyr Gly Ala Ala His Asn Leu Leu Val Ala His Ala Leu
705 710 715 720

Ala Trp Arg Leu Tyr Asp Arg Gln Phe Arg Pro Ser Gln Arg Gly Ala
725 730 735

Val Ser Leu Ser Leu His Ala Asp Trp Ala Glu Pro Ala Asn Pro Tyr
740 745 750

Ala Asp Ser His Trp Arg Ala Ala Glu Arg Phe Leu Gln Phe Glu Ile
755 760 765

Ala Trp Phe Ala Glu Pro Leu Phe Lys Thr Gly Asp Tyr Pro Ala Ala
770 775 780

Met Arg Glu Tyr Ile Ala Ser Lys His Arg Arg Gly Leu Ser Ser Ser
785 790 795 800

Ala Leu Pro Arg Leu Thr Glu Ala Glu Arg Arg Leu Leu Lys Gly Thr
805 810 815

Val Asp Phe Cys Ala Leu Asn His Phe Thr Thr Arg Phe Val Met His
820 825 830

Glu Gln Leu Ala Gly Ser Arg Tyr Asp Ser Asp Arg Asp Ile Gln Phe
835 840 845

Leu Gln Asp Ile Thr Arg Leu Ser Ser Pro Thr Arg Leu Ala Val Ile
850 855 860

Pro Trp Gly Val Arg Lys Leu Leu Arg Trp Val Arg Arg Asn Tyr Gly
865 870 875 880

Asp Met Asp Ile Tyr Ile Thr Ala Ser Gly Ile Asp Asp Gln Ala Leu
885 890 895

Glu Asp Asp Arg Leu Arg Lys Tyr Tyr Leu Gly Lys Tyr Leu Gln Glu
900 905 910

Val Leu Lys Ala Tyr Leu Ile Asp Lys Val Arg Ile Lys Gly Tyr Tyr
915 920 925

Ala Phe Lys Leu Ala Glu Glu Lys Ser Lys Pro Arg Phe Gly Phe Phe
930 935 940

Thr Ser Asp Phe Lys Ala Lys Ser Ser Ile Gln Phe Tyr Asn Lys Val
945 950 955 960

Ile Ser Ser Arg Gly Phe Pro Phe Glu Asn Ser Ser Ser Arg Cys Ser
965 970 975

Gln Thr Gln Glu Asn Thr Glu Cys Thr Val Cys Leu Phe Leu Val Gln
980 985 990

Lys Lys Pro Leu Ile Phe Leu Gly Cys Cys Phe Phe Ser Thr Leu Val
995 1000 1005

Leu Leu Leu Ser Ile Ala Ile Phe Gln Arg Gln Lys Arg Arg Lys
1010 1015 1020

Phe Trp Lys Ala Lys Asn Leu Gln His Ile Pro Leu Lys Lys Gly
1025 1030 1035

Lys Arg Val Val Ser
1040

<210> 38
<211> 1043
<212> PRT
<213> Mus musculus

<400> 38

Met Lys Thr Gly Cys Ala Ala Gly Ser Pro Gly Asn Glu Trp Ile Phe
1 5 10 15

Phe Ser Ser Asp Glu Arg Asn Thr Arg Ser Arg Lys Thr Met Ser Asn
20 25 30

Arg Ala Leu Gln Arg Ser Ala Val Leu Ser Ala Phe Val Leu Leu Arg
35 40 45

Ala Val Thr Gly Phe Ser Gly Asp Gly Lys Ala Ile Trp Asp Lys Lys
50 55 60

Gln Tyr Val Ser Pro Val Asn Pro Ser Gln Leu Phe Leu Tyr Asp Thr
65 70 75 80

Phe Pro Lys Asn Phe Ser Trp Gly Val Gly Thr Gly Ala Phe Gln Val
85 90 95

Glu Gly Ser Trp Lys Thr Asp Gly Arg Gly Pro Ser Ile Trp Asp Arg
100 105 110

Tyr Val Tyr Ser His Leu Arg Gly Val Asn Gly Thr Asp Arg Ser Thr
115 120 125

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

Gly Val Ser Phe Tyr Gln Phe Ser Ile Ser Trp Pro Arg Leu Phe Pro
145 150 155 160

Asn Gly Thr Val Ala Ala Val Asn Ala Gln Gly Leu Arg Tyr Tyr Arg
165 170 175

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

Leu Tyr His Trp Asp Leu Pro Leu Thr Leu Gln Glu Glu Tyr Gly Gly
195 200 205

Trp Lys Asn Ala Thr Met Ile Asp Leu Phe Asn Asp Tyr Ala Thr Tyr
210 215 220

Cys Phe Gln Thr Phe Gly Asp Arg Val Lys Tyr Trp Ile Thr Ile His
225 230 235 240

Asn Pro Tyr Leu Val Ala Trp His Gly Phe Gly Thr Gly Met His Ala
245 250 255

Pro Gly Glu Lys Gly Asn Leu Thr Ala Val Tyr Thr Val Gly His Asn
260 265 270

Leu Ile Lys Ala His Ser Lys Val Trp His Asn Tyr Asp Lys Asn Phe
275 280 285

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

Ile Glu Pro Asn Arg Thr Asp Asn Met Glu Asp Val Ile Asn Cys Gln
305 310 315 320

His Ser Met Ser Ser Val Leu Gly Trp Phe Ala Asn Pro Ile His Gly
325 330 335

Asp Gly Asp Tyr Pro Glu Phe Met Lys Thr Gly Ala Met Ile Pro Glu
340 345 350

Phe Ser Glu Ala Glu Lys Glu Glu Val Arg Gly Thr Ala Asp Phe Phe
355 360 365

Ala Phe Ser Phe Gly Pro Asn Asn Phe Arg Pro Ser Asn Thr Val Val
370 375 380

Lys Met Gly Gln Asn Val Ser Leu Asn Leu Arg Gln Val Leu Asn Trp
385 390 395 400

Ile Lys Leu Glu Tyr Asp Asp Pro Gln Ile Leu Ile Ser Glu Asn Gly
405 410 415

Trp Phe Thr Asp Ser Tyr Ile Lys Thr Glu Asp Thr Thr Ala Ile Tyr
420 425 430

Met Met Lys Asn Phe Leu Asn Gln Val Leu Gln Ala Ile Lys Phe Asp
435 440 445

Glu Ile Arg Val Phe Gly Tyr Thr Ala Trp Thr Leu Leu Asp Gly Phe
450 455 460

Glu Trp Gln Asp Ala Tyr Thr Thr Arg Arg Gly Leu Phe Tyr Val Asp
465 470 475 480

Phe Asn Ser Glu Gln Lys Glu Arg Lys Pro Lys Ser Ser Ala His Tyr
485 490 495

Tyr Lys Gln Ile Ile Gln Asp Asn Gly Phe Pro Leu Lys Glu Ser Thr
500 505 510

Pro Asp Met Lys Gly Arg Phe Pro Cys Asp Phe Ser Trp Gly Val Thr
515 520 525

Glu Ser Val Leu Lys Pro Glu Phe Thr Val Ser Ser Pro Gln Phe Thr
530 535 540

Asp Pro His Leu Tyr Val Trp Asn Val Thr Gly Asn Arg Leu Leu Tyr
545 550 555 560

Arg Val Glu Gly Val Arg Leu Lys Thr Arg Pro Ser Gln Cys Thr Asp
565 570 575

Tyr Val Ser Ile Lys Lys Arg Val Glu Met Leu Ala Lys Met Lys Val
580 585 590

Thr His Tyr Gln Phe Ala Leu Asp Trp Thr Ser Ile Leu Pro Thr Gly
595 600 605

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

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

His Pro Thr His Ser His Leu Gly Leu Pro Leu Pro Leu Leu Ser Ser
645 650 655

Gly Gly Trp Leu Asn Met Asn Thr Ala Lys Ala Phe Gln Asp Tyr Ala
660 665 670

Glu Leu Cys Phe Arg Glu Leu Gly Asp Leu Val Lys Leu Trp Ile Thr
675 680 685

Ile Asn Glu Pro Asn Arg Leu Ser Asp Met Tyr Asn Arg Thr Ser Asn
690 695 700

Asp Thr Tyr Arg Ala Ala His Asn Leu Met Ile Ala His Ala Gln Val

705 710 715 720

Trp His Leu Tyr Asp Arg Gln Tyr Arg Pro Val Gln His Gly Ala Val
725 730 735

Ser Leu Ser Leu His Cys Asp Trp Ala Glu Pro Ala Asn Pro Phe Val
740 745 750

Asp Ser His Trp Lys Ala Ala Glu Arg Phe Leu Gln Phe Glu Ile Ala
755 760 765

Trp Phe Ala Asp Pro Leu Phe Lys Thr Gly Asp Tyr Pro Ser Val Met
770 775 780

Lys Glu Tyr Ile Ala Ser Lys Asn Gln Arg Gly Leu Ser Ser Ser Val
785 790 795 800

Leu Pro Arg Phe Thr Ala Lys Glu Ser Arg Leu Val Lys Gly Thr Val
805 810 815

Asp Phe Tyr Ala Leu Asn His Phe Thr Thr Arg Phe Val Ile His Lys
820 825 830

Gln Leu Asn Thr Asn Arg Ser Val Ala Asp Arg Asp Val Gln Phe Leu
835 840 845

Gln Asp Ile Thr Arg Leu Ser Ser Pro Ser Arg Leu Ala Val Thr Pro
850 855 860

Trp Gly Val Arg Lys Leu Leu Ala Trp Ile Arg Arg Asn Tyr Arg Asp
865 870 875 880

Arg Asp Ile Tyr Ile Thr Ala Asn Gly Ile Asp Asp Leu Ala Leu Glu
885 890 895

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

Leu Lys Ala Tyr Leu Ile Asp Lys Val Lys Ile Lys Gly Tyr Tyr Ala
915 920 925

Phe Lys Leu Thr Glu Glu Lys Ser Lys Pro Arg Phe Gly Phe Phe Thr
930 935 940

Ser Asp Phe Arg Ala Lys Ser Ser Val Gln Phe Tyr Ser Lys Leu Ile
945 950 955 960

Ser Ser Ser Gly Leu Pro Ala Glu Asn Arg Ser Pro Ala Cys Gly Gln
965 970 975

Pro Ala Glu Asp Thr Asp Cys Thr Ile Cys Ser Phe Leu Val Glu Lys
980 985 990

Lys Pro Leu Ile Phe Phe Gly Cys Cys Phe Ile Ser Thr Leu Ala Val
995 1000 1005

Leu Leu Ser Ile Thr Val Phe His His Gln Lys Arg Arg Lys Phe
1010 1015 1020

Gln Lys Ala Arg Asn Leu Gln Asn Ile Pro Leu Lys Lys Gly His
1025 1030 1035

Ser Arg Val Phe Ser
1040

<210> 39
<211> 63
<212> DNA
<213> Artificial

<220>
<223> FGF21 secretion constructs, cloned into pVK7ara (Nde/Eco)

<400> 39
atgaaaaaaa ctgctatcgc gatcgctgta gctctggctg gtttcgcgac cgtagctaac 60

gct 63

<210> 40
<211> 21
<212> PRT
<213> Artificial

<220>
<223> FGF21 secretion constructs, cloned into pVK7ara (Nde/Eco)

<400> 40

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

Thr Val Ala Asn Ala
20

<210> 41
<211> 78
<212> DNA
<213> Artificial

<220>
<223> FGF21 secretion constructs, cloned into pVK7ara (Nde/Eco)

<400> 41
atgaaaataa aaacaggtgc acgcatcctc gcattatccg cattaacgac gatgatgttt 60

tccgcctcgg ctctcgcc 78

<210> 42
<211> 26
<212> PRT
<213> Artificial

<220>
<223> FGF21 secretion constructs, cloned into pVK7ara (Nde/Eco)

<400> 42

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

Thr Met Met Phe Ser Ala Ser Ala Leu Ala
20 25

<210> 43
<211> 69
<212> DNA
<213> Artificial

<220>
<223> FGF21 secretion constructs, cloned into pVK7ara (Nde/Eco)

<400> 43
atgaaaaaga atatcgcatt tcttcttgca tctatgttcg ttttttctat tgctacaaat 60

gcctatgca 69

<210> 44
<211> 23
<212> PRT
<213> Artificial

<220>
<223> FGF21 secretion constructs, cloned into pVK7ara (Nde/Eco)

<400> 44

Met Lys Lys Asn Ile Ala Phe Leu Leu Ala Ser Met Phe Val Phe Ser
1 5 10 15

Ile Ala Thr Asn Ala Tyr Ala
20

<210> 45
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 45
His Ser Tyr Tyr Glu Gln Asn Ser
1 5

<210> 46
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 46
Tyr Ser Gln Thr
1

<210> 47
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic peptide

<400> 47
Tyr Gly Ser Lys Tyr Tyr Tyr
1 5

<210> 48
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 48
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Pro Lys
1 5 10 15

Tyr Asp Lys Thr Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Thr Arg Gln Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Lys Asp Asp Tyr Tyr Pro His Glu His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 49
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 49
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Asn
1 5 10 15

Asp Gly Pro Gly Leu Ser Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Ser Gln Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Tyr Tyr Thr Lys Lys Ala Tyr Ser Ala Gly Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 50
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 50
Glu Met Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Glu Asp
1 5 10 15

Asp Ser Tyr Tyr Ser Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Asp Leu Tyr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Thr Tyr Asp Val Thr Asp Leu Ile Met His Glu Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 51
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 51

Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Glu Asp
1 5 10 15

Asp Ser Tyr Tyr Ser Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Asp Leu Tyr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Thr Tyr Asp Val Thr Asp Leu Ile Met His Glu Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 52
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 52
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Tyr Met
1 5 10 15

Asp Glu Tyr Asp Val Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Asn Tyr Tyr Asn Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

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

Ser Ile Asn Tyr Arg Thr
85

<210> 53
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 53
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Asn His
1 5 10 15

Leu Glu His Val Ala Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Glu Tyr Pro Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Thr Ile Thr Met Leu Lys Tyr Pro Thr Gln Ser Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 54
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 54
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Gly His
1 5 10 15

Tyr Arg Arg Ser Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Asp Pro Ser Ser Tyr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Lys Asp Asp Tyr Tyr Pro His Glu His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 55
<211> 84
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 55
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala
1 5 10 15

Ser His Tyr Glu Arg Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Arg Tyr His His Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Thr Gln Ala Gln Glu His Tyr Gln Pro Pro Ile Ser Ile
65 70 75 80

Asn Tyr Arg Thr

<210> 56
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 56

Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Asn Ser
1 5 10 15

Tyr Tyr His Ser Ala Asp Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Tyr Pro Pro Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Tyr Ser Ala Lys Ser Tyr Tyr Pro Ile Ser Ile Asn Tyr
65 70 75 80

Arg Thr

<210> 57
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 57
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Lys
1 5 10 15

Tyr Ser Lys His Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Gly Asn Ala Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Glu Asp Thr Asn Asp Tyr Pro His Thr His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 58
<211> 84
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 58
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp His Gly
1 5 10 15

Glu Pro Asp Gln Thr Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Pro Tyr Arg Arg Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Thr Ser Gly Tyr Thr Gly His Tyr Gln Pro Ile Ser Ile
65 70 75 80

Asn Tyr Arg Thr

<210> 59
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 59
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Lys
1 5 10 15

Tyr Ser Lys His Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Asp Pro Ser Ser Tyr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Lys Asp Asp Tyr Tyr Pro His Glu His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 60
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 60
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Tyr Glu
1 5 10 15

Pro Tyr Thr Pro Ile His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Gly Tyr Tyr Gly Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

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

Arg Thr

<210> 61
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 61

Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Lys
1 5 10 15

Tyr Ser Lys His Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Gly Asn Ala Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Asp Asp Asn Lys Tyr Tyr His Gln His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 62
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 62
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Gly His
1 5 10 15

Tyr Arg Arg Ser Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Asp Pro Ser Ser Tyr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Lys Asp Asp Tyr Tyr Pro His Glu His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 63
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 63
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Lys
1 5 10 15

Tyr Ser Lys His Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Gly Asn Ala Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Glu Asp Thr Asn Asp Tyr Pro His Thr His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 64
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 64
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Tyr Glu
1 5 10 15

Pro Gly Ala Ser Val Tyr Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Tyr Tyr His Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Tyr Gly Tyr Tyr Glu Tyr Glu Pro Ile Ser Ile Asn Tyr
65 70 75 80

Arg Thr

<210> 65
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 65
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Gln Ser
1 5 10 15

Tyr Tyr Ala His Ser Asp Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Tyr Pro Pro Gln Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Tyr Ala Gly Ser Ser Tyr Tyr Pro Ile Ser Ile Asn Tyr
65 70 75 80

Arg Thr

<210> 66
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 66

Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Gly His
1 5 10 15

Tyr Arg Arg Ser Gly His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Asp Pro Ser Ser Tyr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Lys Asp Asp Tyr Tyr Pro His Glu His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 67
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 67
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Pro Glu
1 5 10 15

Pro Gly Thr Pro Val Tyr Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ala Tyr Tyr Gly Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Tyr Gly Tyr Tyr Asp Tyr Ser Pro Ile Ser Ile Asn Tyr
65 70 75 80

Arg Thr

<210> 68
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 68
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Tyr Arg
1 5 10 15

Tyr Glu Lys Thr Gln His Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Pro Glu Ser Gly Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Tyr Ala Gly Tyr Glu Tyr Pro His Thr His Arg Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 69
<211> 87
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 69
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Val Lys
1 5 10 15

Ser Glu Glu Tyr Tyr Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Tyr Tyr Val His Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Thr Glu Tyr Tyr Tyr Ala Gly Ala Val Val Ser Val Pro
65 70 75 80

Ile Ser Ile Asn Tyr Arg Thr
85

<210> 70
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 70
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Tyr Asp
1 5 10 15

Pro Tyr Thr Tyr Gly Ser Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Gly Pro Tyr Thr Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Tyr Tyr Tyr Ser Thr Gln Pro Ile Ser Ile Asn Tyr
65 70 75 80

Arg Thr

<210> 71
<211> 86
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 71

Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Ser Asn
1 5 10 15

Asp Gly Pro Gly Leu Ser Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Ser Ser Gln Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Ser Tyr Tyr Thr Lys Lys Ala Tyr Ser Ala Gly Pro Ile
65 70 75 80

Ser Ile Asn Tyr Arg Thr
85

<210> 72
<211> 82
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic polypeptide

<400> 72
Glu Val Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Pro Asp
1 5 10 15

Pro Tyr Tyr Lys Pro Asp Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly
20 25 30

Gly Asn Ser Pro Val Gln Glu Phe Thr Val Pro Arg Asp Tyr Thr Thr
35 40 45

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
50 55 60

Tyr Ala Val Tyr Ser Tyr Tyr Gly Tyr Tyr Pro Ile Ser Ile Asn Tyr
65 70 75 80

Arg Thr

<210> 73
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 73

Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro
1 5 10

<210> 74
<211> 8
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 74

Gly Ala Gly Gly Gly Gly Ser Gly
1 5

<210> 75
<211> 6
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 75

Glu Pro Lys Ser Ser Asp
1 5

<210> 76
<211> 21
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 76

Glu Ser Pro Lys Ala Gln Ala Ser Ser Val Pro Thr Ala Gln Pro Gln
1 5 10 15

Ala Glu Gly Leu Ala
20

<210> 77
<211> 17
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 77

Glu Leu Gln Leu Glu Glu Ser Ala Ala Glu Ala Gln Asp Gly Glu Leu
1 5 10 15

Asp

<210> 78
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 78

Gly Gln Pro Asp Glu Pro Gly Gly Ser
1 5

<210> 79
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 79

Gly Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10

<210> 80
<211> 17
<212> PRT

<213> Artificial

<220>
<223> Synthetic sequence

<400> 80

Glu Leu Gln Leu Glu Glu Ser Ala Ala Glu Ala Gln Glu Gly Glu Leu
1 5 10 15

Glu

<210> 81
<211> 5
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 81

Gly Ser Gly Ser Gly
1 5

<210> 82
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 82

Gly Ser Gly Cys
1

<210> 83
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 83

Ala Gly Gly Gly Gly Ser Gly
1 5

<210> 84
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 84

Gly Ser Gly Ser
1

<210> 85
<211> 8
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 85

Gln Pro Asp Glu Pro Gly Gly Ser
1 5

<210> 86
<211> 6
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 86

Gly Ser Gly Ser Gly Ser
1 5

<210> 87
<211> 6
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 87

Thr Val Ala Ala Pro Ser

1 5

<210> 88
<211> 8
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 88

Lys Ala Gly Gly Gly Gly Ser Gly
1 5

<210> 89
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 89

Lys Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10

<210> 90
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 90

Lys Gln Pro Asp Glu Pro Gly Gly Ser
1 5

<210> 91
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 91

Lys Glu Leu Gln Leu Glu Glu Ser Ala Ala Glu Ala Gln Asp Gly Glu
1 5 10 15

Leu Asp

<210> 92
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 92

Lys Thr Val Ala Ala Pro Ser
1 5

<210> 93
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 93

Lys Ala Gly Gly Gly Gly Ser Gly Gly
1 5

<210> 94
<211> 14
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 94

Lys Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly
1 5 10

<210> 95
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 95

Lys Gln Pro Asp Glu Pro Gly Gly Ser Gly
1 5 10

<210> 96
<211> 19
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 96

Lys Glu Leu Gln Leu Glu Glu Ser Ala Ala Glu Ala Gln Asp Gly Glu
1 5 10 15

Leu Asp Gly

<210> 97
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 97

Lys Thr Val Ala Ala Pro Ser Gly Ala Gly Gly Gly Gly Ser Gly Gly
1 5 10 15

<210> 98
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 98

Ala Gly Gly Gly Gly Ser Gly
1 5

<210> 99
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 99

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly
1 5 10

<210> 100
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 100

Gln Pro Asp Glu Pro Gly Gly Ser Gly
1 5

<210> 101
<211> 182
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 101

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp

65 70 75 80

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg
165 170 175

Ser Pro Ser Tyr Ala Ser
180

<210> 102
<211> 173
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 102

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
115 120 125

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
130 135 140

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
145 150 155 160

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 103
<211> 182
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 103

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg
165 170 175

Ser Pro Ser Tyr Ala Ser
180

<210> 104
<211> 182
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 104

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Lys Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg
165 170 175

Ser Pro Ser Tyr Ala Ser
180

<210> 105
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 105

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln

35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Asp Lys Ser Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 106
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 106

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly His Lys Ser Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 107
<211> 182
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 107

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Asp Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg
165 170 175

Ser Pro Ser Tyr Ala Ser
180

<210> 108
<211> 170
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 108

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly Ala Arg Phe Leu Pro Leu
115 120 125

Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro
130 135 140

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

Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 109
<211> 182
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 109

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln

1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Gln Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg
165 170 175

Ser Pro Ser Tyr Ala Ser
180

<210> 110
<211> 172
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 110

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 111
<211> 179
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 111

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly His Arg Asp Pro Ala Pro
115 120 125

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
130 135 140

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
145 150 155 160

Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser
165 170 175

Tyr Ala Ser

<210> 112
<211> 180
<212> PRT
<213> Artificial

<220>

<223> Synthetic sequence

<400> 112

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro His His Ser Gly Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 113
<211> 180
<212> PRT

<213> Artificial

<220>
<223> Synthetic sequence

<400> 113

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Lys Asp Ser Gln Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 114
<211> 181
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 114

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly His His Lys Ser Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser

180

<210> 115
<211> 181
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 115

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly His His Lys Ser Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Glu
165 170 175

Pro Ser Tyr Ala Ser
180

<210> 116
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 116

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly His His Lys Ser Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 117
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 117

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly His His Lys Ser Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 118
<211> 172
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 118

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro

130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro
165 170

<210> 119
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 119

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly Pro His Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 120
<211> 178
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 120

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

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

Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro
130 135 140

Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser
145 150 155 160

Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr
165 170 175

Ala Ser

<210> 121
<211> 178
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 121

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Asp Pro Ala Pro Arg
115 120 125

Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro
130 135 140

Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser
145 150 155 160

Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr
165 170 175

Ala Ser

<210> 122
<211> 176
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 122

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala

100 105 110

His Gly Leu Pro Leu His Leu Ser Gly Gly Pro Ala Pro Arg Gly Pro
115 120 125

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
130 135 140

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
145 150 155 160

Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170 175

<210> 123
<211> 171
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 123

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

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

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala
130 135 140

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

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 124
<211> 169
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 124

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Gly Gly Arg Phe Leu Pro Leu Pro
115 120 125

Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln
130 135 140

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

Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165

<210> 125
<211> 170
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 125

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Pro Ser Gly Gly Arg Phe Leu Pro Leu
115 120 125

Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro
130 135 140

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

Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 126
<211> 175
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 126

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

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

115 120 125

Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro
130 135 140

Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu
145 150 155 160

Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170 175

<210> 127
<211> 171
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 127

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Gly Ser Gly Gly Pro Ala Arg Phe Leu Pro
115 120 125

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala
130 135 140

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

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 128
<211> 166
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 128

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro His Gly Gly Arg Phe Leu Pro Leu Pro Gly Leu Pro
115 120 125

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
130 135 140

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

Ser Pro Ser Tyr Ala Ser
165

<210> 129
<211> 167
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 129

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro His Ser Gly Gly Arg Phe Leu Pro Leu Pro Gly Leu
115 120 125

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro
130 135 140

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

Arg Ser Pro Ser Tyr Ala Ser
165

<210> 130
<211> 167
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 130

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro His Gly Ser Gly Arg Phe Leu Pro Leu Pro Gly Leu
115 120 125

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro

130 135 140

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

Arg Ser Pro Ser Tyr Ala Ser
165

<210> 131
<211> 172
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 131

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

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

His Gly Leu Pro Leu His Leu Gly Ser Gly Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Thr Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 132
<211> 187
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 132

Met His His His His His His Pro Ile Pro Asp Ser Ser Pro Leu Leu
1 5 10 15

Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala
20 25 30

Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly
35 40 45

Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu
50 55 60

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

Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro
85 90 95

Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val
100 105 110

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

Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro
130 135 140

Leu Pro Gly Leu Pro Pro Ala Leu Pro Glu Pro Pro Gly Ile Leu Ala
145 150 155 160

Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Gly
165 170 175

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
180 185

<210> 133

<400> 133
000

<210> 134

<400> 134
000

<210> 135

<400> 135
000

<210> 136

<400> 136
000

<210> 137

<400> 137
000

<210> 138

<400> 138
000

<210> 139

<400> 139
000

<210> 140

<400> 140
000

<210> 141

<400> 141
000

<210> 142

<400> 142
000

<210> 143

<400> 143
000

<210> 144

<400> 144
000

<210> 145

<400> 145
000

<210> 146

<400> 146
000

<210> 147

<400> 147
000

<210> 148

<400> 148
000

<210> 149

<400> 149
000

<210> 150

<400> 150
000

<210> 151

<400> 151
000

<210> 152

<400> 152
000

<210> 153

<400> 153
000

<210> 154

<400> 154
000

<210> 155

<400> 155
000

<210> 156

<400> 156
000

<210> 157

<400> 157
000

<210> 158

<400> 158
000

<210> 159

<400> 159
000

<210> 160

<400> 160
000

<210> 161

<400> 161
000

<210> 162

<400> 162
000

<210> 163

<400> 163
000

<210> 164

<400> 164
000

<210> 165

<400> 165
000

<210> 166

<400> 166
000

<210> 167

<400> 167
000

<210> 168

<400> 168
000

<210> 169

<400> 169
000

<210> 170

<400> 170
000

<210> 171

<400> 171
000

<210> 172

<400> 172
000

<210> 173

<400> 173
000

<210> 174

<400> 174
000

<210> 175

<400> 175
000

<210> 176

<400> 176
000

<210> 177

<400> 177
000

<210> 178

<400> 178
000

<210> 179

<400> 179
000

<210> 180

<400> 180
000

<210> 181

<400> 181
000

<210> 182

<400> 182
000

<210> 183

<400> 183
000

<210> 184

<400> 184
000

<210> 185

<400> 185
000

<210> 186

<400> 186
000

<210> 187

<400> 187
000

<210> 188

<400> 188
000

<210> 189

<400> 189
000

<210> 190

<400> 190
000

<210> 191

<400> 191
000

<210> 192

<400> 192
000

<210> 193

<400> 193
000

<210> 194

<400> 194
000

<210> 195

<400> 195
000

<210> 196

<400> 196
000

<210> 197

<400> 197
000

<210> 198

<400> 198
000

<210> 199

<400> 199
000

<210> 200

<400> 200
000

<210> 201
<211> 182
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 201

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp
115 120 125

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
130 135 140

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
145 150 155 160

Val Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg
165 170 175

Ser Pro Ser Tyr Ala Ser
180

<210> 202
<211> 173
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 202

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala

20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
115 120 125

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
130 135 140

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
145 150 155 160

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 203

<400> 203
000

<210> 204

<400> 204
000

<210> 205
<211> 180
<212> PRT
<213> Artificial

<220>

<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 205

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Pro Gly Asp Lys Ser Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 206
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 206

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Pro Gly His Lys Ser Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala

130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 207

<400> 207
000

<210> 208

<400> 208
000

<210> 209

<400> 209
000

<210> 210
<211> 172
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 210

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Gly Ser Gly Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 211
<211> 179
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 211

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Gly Ser Gly His Arg Asp Pro Ala Pro
115 120 125

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
130 135 140

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
145 150 155 160

Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser
165 170 175

Tyr Ala Ser

<210> 212
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 212

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Pro His His Ser Gly Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 213

<400> 213
000

<210> 214

<400> 214
000

<210> 215

<400> 215
000

<210> 216

<400> 216
000

<210> 217

<400> 217
000

<210> 218

<400> 218
000

<210> 219
<211> 180
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 219

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Gly Ser Gly Pro His Arg Asp Pro Ala
115 120 125

Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
130 135 140

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
145 150 155 160

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro
165 170 175

Ser Tyr Ala Ser
180

<210> 220
<211> 178
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>

<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 220

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

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

Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro
130 135 140

Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser
145 150 155 160

Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr
165 170 175

Ala Ser

<210> 221
<211> 178
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 221

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Asp Pro Ala Pro Arg
115 120 125

Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro
130 135 140

Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser
145 150 155 160

Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr
165 170 175

Ala Ser

<210> 222
<211> 176
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 222

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala

100 105 110

His Gly Leu Pro Leu His Leu Ser Gly Gly Pro Ala Pro Arg Gly Pro
115 120 125

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
130 135 140

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
145 150 155 160

Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170 175

<210> 223
<211> 171
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<220>
<221> misc_feature
<222> (109)..(109)
<223> Para-acetyl-L-phenylalanine optionally linked to a 30 kDa poly(ethylene glycol)

<400> 223

Met His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
1 5 10 15

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
20 25 30

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
35 40 45

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
50 55 60

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

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
85 90 95

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Xaa Ser Glu Ala
100 105 110

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

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala
130 135 140

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

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
165 170

<210> 224

<400> 224
000

<210> 225

<400> 225
000

<210> 226

<400> 226
000

<210> 227

<400> 227
000

<210> 228

<400> 228
000

<210> 229

<400> 229
000

<210> 230

<400> 230
000

<210> 231

<400> 231
000

<210> 232

<400> 232
000

<210> 233

<400> 233
000

<210> 234

<400> 234
000

<210> 235

<400> 235
000

<210> 236

<400> 236
000

<210> 237

<400> 237
000

<210> 238

<400> 238
000

<210> 239

<400> 239
000

<210> 240

<400> 240
000

<210> 241

<400> 241
000

<210> 242

<400> 242
000

<210> 243

<400> 243
000

<210> 244

<400> 244
000

<210> 245

<400> 245
000

<210> 246

<400> 246
000

<210> 247

<400> 247
000

<210> 248

<400> 248
000

<210> 249

<400> 249
000

<210> 250

<400> 250
000

<210> 251

<400> 251
000

<210> 252

<400> 252
000

<210> 253

<400> 253
000

<210> 254

<400> 254
000

<210> 255

<400> 255
000

<210> 256

<400> 256
000

<210> 257

<400> 257
000

<210> 258

<400> 258
000

<210> 259

<400> 259
000

<210> 260

<400> 260
000

<210> 261

<400> 261
000

<210> 262

<400> 262
000

<210> 263

<400> 263
000

<210> 264

<400> 264
000

<210> 265

<400> 265

000

<210> 266

<400> 266
000

<210> 267

<400> 267
000

<210> 268

<400> 268
000

<210> 269

<400> 269
000

<210> 270

<400> 270
000

<210> 271

<400> 271
000

<210> 272

<400> 272
000

<210> 273

<400> 273
000

<210> 274

<400> 274
000

<210> 275

<400> 275
000

<210> 276

<400> 276
000

<210> 277

<400> 277
000

<210> 278

<400> 278
000

<210> 279

<400> 279
000

<210> 280

<400> 280
000

<210> 281

<400> 281
000

<210> 282

<400> 282
000

<210> 283

<400> 283
000

<210> 284

<400> 284
000

<210> 285

<400> 285
000

<210> 286

<400> 286
000

<210> 287

<400> 287
000

<210> 288

<400> 288
000

<210> 289

<400> 289
000

<210> 290

<400> 290
000

<210> 291

<400> 291
000

<210> 292

<400> 292
000

<210> 293

<400> 293
000

<210> 294

<400> 294
000

<210> 295

<400> 295
000

<210> 296

<400> 296
000

<210> 297

<400> 297
000

<210> 298

<400> 298
000

<210> 299

<400> 299
000

<210> 300

<400> 300
000

<210> 301
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 301

Thr Val Ala Ala Pro Ser Gly
1 5

<210> 302
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 302

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 Asp Glu Leu 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> 303
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 303

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

<210> 304
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 304

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

<210> 305
<211> 24
<212> PRT
<213> Artificial

<220>

<223> Synthetic sequence

<400> 305

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

Pro Glu Leu Leu Gly Gly Pro Ser
20

<210> 306
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 306

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

Pro Glu Leu Leu Gly Gly Ser Ser
20

<210> 307
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 307

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

Pro Glu Leu Leu Gly Gly Ser Ser
20

<210> 308
<211> 19
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 308

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

Gly Pro Ser

<210> 309
<211> 19
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 309

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

Gly Ser Ser

<210> 310
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 310

Ala Ser Pro Ala Ala Pro Ala Pro Ala Ser Pro Ala Ala Pro Ala Pro
1 5 10 15

Ser Ala Pro Ala
20

<210> 311
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 311

Ala Ala Pro Ala Ser Pro Ala Pro Ala Ala Pro Ser Ala Pro Ala Pro
1 5 10 15

Ala Ala Pro Ser
20

<210> 312
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 312

Ala Pro Ser Ser Pro Ser Pro Ser Ala Pro Ser Ser Pro Ser Pro Ala
1 5 10 15

Ser Pro Ser Ser
20

<210> 313
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 313

Ser Ala Pro Ser Ser Pro Ser Pro Ser Ala Pro Ser Ser Pro Ser Pro
1 5 10 15

Ala Ser Pro Ser
20

<210> 314
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 314

Ser Ser Pro Ser Ala Pro Ser Pro Ser Ser Pro Ala Ser Pro Ser Pro
1 5 10 15

Ser Ser Pro Ala
20

<210> 315
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 315

Ala Ala Ser Pro Ala Ala Pro Ser Ala Pro Pro Ala Ala Ala Ser Pro
1 5 10 15

Ala Ala Pro Ser Ala Pro Pro Ala
20

<210> 316
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 316

Ala Ser Ala Ala Ala Pro Ala Ala Ala Ser Ala Ala Ala Ser Ala Pro
1 5 10 15

Ser Ala Ala Ala
20

<210> 317
<211> 519
<212> DNA
<213> Artificial

<220>
<223> Synthetic sequence

<400> 317
atgcatccta ttcctgattc ttctcctctg ctgcaatttg ggggtcaggt gcgccaacgt 60

tacctgtaca ccgacgatgc gcaacagact gaggctcacc tggagatccg tgaggacggg 120

actgtcggag gggctgccga tcaatcccca gagtcactgc tgcaactgaa agccctgaag 180

cctggggtca ttcagatcct gggcgtaaag acgagtcgtt tcctgtgcca acgtcctgac 240

ggggcactgt atggctcgct gcattttgat cctgaggctt gtagttttcg cgaactgctg 300

ctggaagatg gttacaatgt gtatcagagt gaagcacacg gtctgcctct gcacctgggt 360

tctggtcgtg gtccggcgcg ttttctgcca ctgcctggcc tgcctccagc accacctgaa 420

ccaccgggta ttctggctcc gcaacctcca gacgtcggga gttcagatcc tctgtcgatg 480

gtagaaccgt cacaaggtcg ctctcctagt tacgcgtca 519

<210> 318
<211> 519
<212> DNA
<213> Artificial

<220>
<223> Synthetic sequence

<400> 318
atgcatccta ttcctgattc ttctcctctg ctgcaatttg ggggtcaggt gcgccaacgt 60

tacctgtaca ccgacgatgc gcaacagact gaggctcacc tggagatccg tgaggacggg 120

actgtcggag gggctgccga tcaatcccca gagtcactgc tgcaactgaa agccctgaag 180

cctggggtca ttcagatcct gggcgtaaag acgagtcgtt tcctgtgcca acgtcctgac 240

ggggcactgt atggctcgct gcattttgat cctgaggctt gtagttttcg cgaactgctg 300

ctggaagatg gttacaatgt gtattagagt gaagcacacg gtctgcctct gcatctgggc 360

tccggccgcg gtccggcccg ttttctgcca ctgcctggcc tgcctccagc accacctgaa 420

ccaccgggta ttctggctcc gcaacctcca gacgtcggga gttcagatcc tctgtcgatg 480

gtagaaccgt cacaaggtcg ctctcctagt tacgcgtca 519

<210> 319
<211> 98
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 319

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln

<210> 320
<211> 103
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 320

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro
100

<210> 321
<211> 585
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 321

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 Ala 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 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> 322
<211> 584
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 322

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 Ala 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 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
580

<210> 323
<211> 227

<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 323

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 Asp Glu Leu 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> 324
<211> 225
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 324

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 Asp Glu Leu 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
225

<210> 325
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 325

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 Asp 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> 326
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 326

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

Ala 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 Ser Ser 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> 327
<211> 232
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 327

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

Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45

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

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65 70 75 80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110

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

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

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

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

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

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

Ser Leu Ser Leu Ser Pro Gly Lys
225 230

<210> 328
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 328

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 Gly 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 Asp Glu Leu 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> 329
<211> 226
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 329

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 Asp Glu Leu 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
225

<210> 330
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 330

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 Gln 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 Asp Glu Leu 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> 331
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 331

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 Ser 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 Asp Glu Leu 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> 332
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 332

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 Ala 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 Asp Glu Leu 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> 333
<211> 227
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 333

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 His 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 Asp Glu Leu 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> 334
<211> 233

<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 334

Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro
1 5 10 15

Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
20 25 30

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
35 40 45

Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
50 55 60

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
65 70 75 80

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

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
100 105 110

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

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

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
145 150 155 160

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
165 170 175

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

Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val
195 200 205

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

Lys Ser Leu Ser Leu Ser Leu Gly Lys
225 230

<210> 335
<211> 233
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 335

Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
1 5 10 15

Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
20 25 30

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
35 40 45

Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr
50 55 60

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
65 70 75 80

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

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
100 105 110

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

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

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
145 150 155 160

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
165 170 175

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

Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val
195 200 205

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

Lys Ser Leu Ser Leu Ser Leu Gly Lys
225 230

<210> 336

<400> 336
000

<210> 337

<400> 337
000

<210> 338

<400> 338
000

<210> 339

<400> 339
000

<210> 340

<400> 340

000

<210> 341

<400> 341
000

<210> 342

<400> 342
000

<210> 343
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 343

Gly Ser Gly His
1

<210> 344
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 344

His His Ser Gly
1

<210> 345
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 345

His Gly Ser His
1

<210> 346
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 346

Gly Ser Gly Pro
1

<210> 347
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 347

His Ser Gly Gly
1

<210> 348
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 348

His Gly Ser Gly
1

<210> 349
<211> 4
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 349

Lys Asp Ser Gln
1

<210> 350
<211> 28
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 350

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
20 25

<210> 351
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 351

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro
1 5 10 15

<210> 352
<211> 17
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 352

Glu Leu Gln Leu Glu Glu Ser Ala Ala Glu Ala Gln Glu Gly Glu Leu
1 5 10 15

Glu

<210> 353
<211> 17
<212> PRT

<213> Artificial

<220>
<223> Synthetic sequence

<400> 353

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Gly
1 5 10 15

Ser

<210> 354
<211> 2
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 354

Gly Ser
1

<210> 355
<211> 5
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 355

Gly Gly Gly Gly Ser
1 5

<210> 356
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 356

Glu Glu Glu Glu Asp Glu Glu Glu Glu Asp
1 5 10

<210> 357
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 357

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro
1 5 10

<210> 358
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 358

Gly Ser His His His His His His His His Gly Ser
1 5 10

<210> 359
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 359

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 360
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 360

Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser

1 5 10 15

<210> 361
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 361

Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
1 5 10 15

<210> 362
<211> 18
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 362

Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro Pro Thr Pro Ser
1 5 10 15

Pro Ser

<210> 363
<211> 23
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 363

Arg Gly Gly Glu Glu Lys Lys Lys Glu Lys Glu Lys Glu Glu Gln Glu
1 5 10 15

Glu Arg Glu Thr Lys Thr Pro
20

<210> 364
<211> 25

<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 364

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

<210> 365
<211> 30
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 365

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro
1 5 10 15

Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro
20 25 30

<210> 366
<211> 36
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 366

Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro Pro Thr Pro Ser
1 5 10 15

Pro Ser Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro Pro Thr
20 25 30

Pro Ser Pro Ser
35

<210> 367
<211> 5
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 367

Pro Ser Pro Glu Pro
1 5

<210> 368
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 368

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro
1 5 10 15

Thr Pro Glu Pro
20

<210> 369
<211> 40
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 369

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro
1 5 10 15

Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser
20 25 30

Pro Glu Pro Pro Thr Pro Glu Pro
35 40

<210> 370
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 370

Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro
1 5 10 15

Ser Pro Glu Pro
20

<210> 371
<211> 14
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 371

Pro Ser Pro Glu Pro Gly Gly Gly Ser Pro Thr Pro Glu Pro
1 5 10

<210> 372
<211> 14
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 372

Pro Ser Pro Glu Pro Glu Glu Glu Asp Pro Thr Pro Glu Pro
1 5 10

<210> 373
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 373

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Glu Glu Glu Asp Pro Ser
1 5 10 15

Pro Glu Pro Pro Thr Pro Glu Pro
20

<210> 374
<211> 34
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 374

Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Glu
1 5 10 15

Glu Glu Asp Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro
20 25 30

Glu Pro

<210> 375
<211> 35
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 375

Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Gly
1 5 10 15

Gly Gly Gly Ser Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser
20 25 30

Pro Glu Pro
35

<210> 376
<211> 26

<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 376

Pro Ser Pro Glu Pro Thr Pro Glu Pro Ser Pro Glu Pro Pro Thr Pro
1 5 10 15

Glu Pro Ser Pro Glu Pro Thr Pro Glu Pro
20 25

<210> 377
<211> 5
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 377

Gly Glu Thr Gly Ser
1 5

<210> 378
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 378

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10

<210> 379
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 379

Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr

1 5 10

<210> 380
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 380

Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser
1 5 10 15

<210> 381
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 381

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser
20

<210> 382
<211> 20
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 382

Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly
1 5 10 15

Ala Gly Glu Ser
20

<210> 383
<211> 30

<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 383

Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly
1 5 10 15

Ala Gly Glu Ser Gly Thr Gly Glu Ser Gly Glu Gly Gly Ser
20 25 30

<210> 384

<400> 384
000

<210> 385

<400> 385
000

<210> 386

<400> 386
000

<210> 387

<400> 387
000

<210> 388

<400> 388
000

<210> 389

<400> 389
000

<210> 390

<400> 390

000

<210> 391

<400> 391
000

<210> 392

<400> 392
000

<210> 393

<400> 393
000

<210> 394

<400> 394
000

<210> 395

<400> 395
000

<210> 396

<400> 396
000

<210> 397

<400> 397
000

<210> 398

<400> 398
000

<210> 399

<400> 399
000

<210> 400

<400> 400
000

<210> 401
<211> 277
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 401

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Ser His Pro Ile Pro Asp Ser Ser
100 105 110

Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr
115 120 125

Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly
130 135 140

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

145 150 155 160

Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser
165 170 175

Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His
180 185 190

Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly
195 200 205

Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly
210 215 220

Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
225 230 235 240

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

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

Pro Ser Tyr Ala Ser
275

<210> 402
<211> 280
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 402

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Gly Gly Gly Ser His Pro Ile Pro
100 105 110

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

Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg
130 135 140

Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu
145 150 155 160

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
165 170 175

Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly
180 185 190

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
195 200 205

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

His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly
225 230 235 240

Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro
245 250 255

Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln

260 265 270

Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 403
<211> 285
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 403

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Glu Glu Glu Glu Asp Glu Glu Glu Glu
100 105 110

Asp His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
115 120 125

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
130 135 140

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

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
165 170 175

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
180 185 190

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
195 200 205

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
210 215 220

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
225 230 235 240

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
245 250 255

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
260 265 270

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 404
<211> 285
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 404

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
115 120 125

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
130 135 140

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

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
165 170 175

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
180 185 190

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
195 200 205

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
210 215 220

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
225 230 235 240

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
245 250 255

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
260 265 270

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 405
<211> 287
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 405

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Ser His His His His His His His
100 105 110

His Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly
115 120 125

Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr
130 135 140

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

Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly
165 170 175

Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg
180 185 190

Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys
195 200 205

Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser
210 215 220

Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala
225 230 235 240

Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro
245 250 255

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

Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 406
<211> 290
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 406

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu
115 120 125

Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala
130 135 140

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

Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu
165 170 175

Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu
180 185 190

Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro
195 200 205

Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val
210 215 220

Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg
225 230 235 240

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

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

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

Ala Ser
290

<210> 407
<211> 290
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 407

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Gly Gly Gly Gly Ser Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu
115 120 125

Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala
130 135 140

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

Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu
165 170 175

Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu
180 185 190

Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro
195 200 205

Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val
210 215 220

Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg
225 230 235 240

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

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

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

Ala Ser
290

<210> 408
<211> 291
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 408

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala Val Thr Val Arg Tyr

20 25 30

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Ser Gly Ser Gly Ser Gly Ser Gly
100 105 110

Ser Gly Ser Gly Ser Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
115 120 125

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
130 135 140

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

Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala
165 170 175

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
180 185 190

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
195 200 205

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

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

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

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

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

Tyr Ala Ser
290

<210> 409
<211> 293
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 409

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Thr Pro Pro Thr Pro Ser Pro
100 105 110

Ser Thr Pro Pro Thr Pro Ser Pro Ser His Pro Ile Pro Asp Ser Ser

115 120 125

Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr
130 135 140

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

Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu
165 170 175

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

Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His
195 200 205

Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly
210 215 220

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

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

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
260 265 270

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

Pro Ser Tyr Ala Ser
290

<210> 410
<211> 298
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 410

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Arg Gly Gly Glu Glu Lys Lys Lys Glu
100 105 110

Lys Glu Lys Glu Glu Gln Glu Glu Arg Glu Thr Lys Thr Pro His Pro
115 120 125

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

Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu
145 150 155 160

Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu
165 170 175

Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu
180 185 190

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

Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu

210 215 220

Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu
225 230 235 240

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

Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro
260 265 270

Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro
275 280 285

Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
290 295

<210> 411
<211> 300
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 411

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
130 135 140

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
145 150 155 160

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
165 170 175

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

Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly
195 200 205

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

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
225 230 235 240

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

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
260 265 270

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
275 280 285

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
290 295 300

<210> 412

<211> 305
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 412

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro
115 120 125

Pro Thr Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln
130 135 140

Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln
145 150 155 160

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

Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys
180 185 190

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

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

Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr
225 230 235 240

Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly
245 250 255

Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu
260 265 270

Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp
275 280 285

Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
290 295 300

Ser
305

<210> 413
<211> 311
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 413

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Thr Pro Pro Thr Pro Ser Pro
100 105 110

Ser Thr Pro Pro Thr Pro Ser Pro Ser Pro Ser Thr Pro Pro Thr Pro
115 120 125

Ser Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser His Pro Ile Pro Asp
130 135 140

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
145 150 155 160

Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu
165 170 175

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

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
195 200 205

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

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
225 230 235 240

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
245 250 255

Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu
260 265 270

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro
275 280 285

Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly
290 295 300

Arg Ser Pro Ser Tyr Ala Ser
305 310

<210> 414
<211> 280
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 414

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro His Pro Ile Pro
100 105 110

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

Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg
130 135 140

Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu
145 150 155 160

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
165 170 175

Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly
180 185 190

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
195 200 205

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

His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly
225 230 235 240

Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro
245 250 255

Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln
260 265 270

Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 415
<211> 295
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 415

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro His Pro Ile Pro Asp
115 120 125

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
130 135 140

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

Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu
165 170 175

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
180 185 190

Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser
195 200 205

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
210 215 220

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
225 230 235 240

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

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro
260 265 270

Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly
275 280 285

Arg Ser Pro Ser Tyr Ala Ser
290 295

<210> 416
<211> 315
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 416

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro
115 120 125

Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro His
130 135 140

Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg
145 150 155 160

Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu
165 170 175

Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro
180 185 190

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

Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala
210 215 220

Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu
225 230 235 240

Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly
245 250 255

Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro
260 265 270

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala
275 280 285

Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu
290 295 300

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
305 310 315

<210> 417
<211> 295
<212> PRT

<213> Artificial

<220>
<223> Synthetic sequence

<400> 417

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu
100 105 110

Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro His Pro Ile Pro Asp
115 120 125

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
130 135 140

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

Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu
165 170 175

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
180 185 190

Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser
195 200 205

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
210 215 220

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
225 230 235 240

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

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro
260 265 270

Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly
275 280 285

Arg Ser Pro Ser Tyr Ala Ser
290 295

<210> 418
<211> 289
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 418

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

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

65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Gly Gly Gly Ser
100 105 110

Pro Thr Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln
115 120 125

Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln
130 135 140

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

Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys
165 170 175

Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys
180 185 190

Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu
195 200 205

Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr
210 215 220

Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly
225 230 235 240

Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu
245 250 255

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

Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
275 280 285

Ser

<210> 419
<211> 289
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 419

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Glu Glu Glu Asp
100 105 110

Pro Thr Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln
115 120 125

Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln
130 135 140

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

Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys

165 170 175

Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys
180 185 190

Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu
195 200 205

Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr
210 215 220

Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly
225 230 235 240

Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu
245 250 255

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

Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
275 280 285

Ser

<210> 420
<211> 299
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 420

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Glu Glu Glu Asp Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro His
115 120 125

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

Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu
145 150 155 160

Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro
165 170 175

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

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

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

Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly
225 230 235 240

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

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala

260 265 270

Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu
275 280 285

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
290 295

<210> 421
<211> 309
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 421

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu
100 105 110

Pro Pro Thr Pro Glu Pro Glu Glu Glu Asp Pro Ser Pro Glu Pro Pro
115 120 125

Thr Pro Glu Pro Pro Ser Pro Glu Pro His Pro Ile Pro Asp Ser Ser
130 135 140

Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr
145 150 155 160

Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly
165 170 175

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

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

Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His
210 215 220

Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly
225 230 235 240

Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly
245 250 255

Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
260 265 270

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
275 280 285

Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser
290 295 300

Pro Ser Tyr Ala Ser
305

<210> 422
<211> 310
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 422

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu
100 105 110

Pro Pro Thr Pro Glu Pro Gly Gly Gly Gly Ser Pro Ser Pro Glu Pro
115 120 125

Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro His Pro Ile Pro Asp Ser
130 135 140

Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr
145 150 155 160

Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp
165 170 175

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

Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr
195 200 205

Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu
210 215 220

His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp
225 230 235 240

Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu
245 250 255

Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
260 265 270

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
275 280 285

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg
290 295 300

Ser Pro Ser Tyr Ala Ser
305 310

<210> 423
<211> 301
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 423

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

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

Tyr Arg Ile Thr Tyr Gly Arg Glu Val Gln Lys Tyr Ser Asp Leu Gly
35 40 45

Pro Leu Tyr Ile Tyr Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr
50 55 60

Ala Thr Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val
65 70 75 80

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

Ser Ile Asn Tyr Arg Thr Pro Pro Ser Pro Glu Pro Thr Pro Glu Pro
100 105 110

Ser Pro Glu Pro Pro Thr Pro Glu Pro Ser Pro Glu Pro Thr Pro Glu
115 120 125

Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
130 135 140

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
145 150 155 160

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

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

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
195 200 205

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
210 215 220

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
225 230 235 240

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

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
260 265 270

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
275 280 285

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
290 295 300

<210> 424
<211> 759
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 424

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 Ala 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 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 Gly Ser His Pro Ile Pro Asp
580 585 590

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
595 600 605

Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu

610 615 620

Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu
625 630 635 640

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
645 650 655

Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser
660 665 670

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
675 680 685

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
690 695 700

Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu
705 710 715 720

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro
725 730 735

Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu
740 745 750

Arg Ser Pro Ser Tyr Ala Ser
755

<210> 425
<211> 762
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 425

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 Ala 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 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 Gly Gly Gly Gly Ser His Pro
580 585 590

Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln
595 600 605

Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu
610 615 620

Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu
625 630 635 640

Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu
645 650 655

Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu
660 665 670

Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu
675 680 685

Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu
690 695 700

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

Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro
725 730 735

Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro
740 745 750

Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser
755 760

<210> 426
<211> 762
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 426

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 Ala 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 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 Gly Glu Thr Gly Ser His Pro
580 585 590

Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln
595 600 605

Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu
610 615 620

Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu
625 630 635 640

Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu
645 650 655

Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu
660 665 670

Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu
675 680 685

Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu
690 695 700

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

Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro
725 730 735

Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro
740 745 750

Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser

755 760

<210> 427
<211> 767
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 427

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 Ala 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 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 Gly Gly Gly Gly Ser Gly Gly
580 585 590

Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly
595 600 605

Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr
610 615 620

Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala
625 630 635 640

Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly
645 650 655

Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg
660 665 670

Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys
675 680 685

Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser
690 695 700

Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala
705 710 715 720

Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro
725 730 735

Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu
740 745 750

Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser
755 760 765

<210> 428
<211> 767
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 428

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 Ala 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 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 Gly Glu Thr Gly Ser Ser Gly
580 585 590

Glu Gly Thr His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly
595 600 605

Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr
610 615 620

Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala
625 630 635 640

Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly
645 650 655

Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg
660 665 670

Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys
675 680 685

Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser
690 695 700

Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala
705 710 715 720

Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro
725 730 735

Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu
740 745 750

Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser
755 760 765

<210> 429
<211> 772
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 429

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 Ala 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 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 Gly Gly Gly Gly Ser Gly Gly
580 585 590

Gly Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro
595 600 605

Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp
610 615 620

Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr
625 630 635 640

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

Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg
660 665 670

Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe
675 680 685

Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr
690 695 700

Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser
705 710 715 720

Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
725 730 735

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
740 745 750

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro
755 760 765

Ser Tyr Ala Ser
770

<210> 430
<211> 772
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 430

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 Ala 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 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 Gly Glu Thr Gly Ser Ser Gly
580 585 590

Glu Gly Thr Gly Ser Thr Gly Ser His Pro Ile Pro Asp Ser Ser Pro
595 600 605

Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp
610 615 620

Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr
625 630 635 640

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

Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg
660 665 670

Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe
675 680 685

Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr
690 695 700

Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser
705 710 715 720

Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
725 730 735

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
740 745 750

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro
755 760 765

Ser Tyr Ala Ser
770

<210> 431
<211> 777
<212> PRT
<213> Artificial

<220>

<223> Synthetic sequence

<400> 431

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 Ala 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 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 Gly Gly Gly Gly Ser Gly Gly
580 585 590

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser His Pro Ile
595 600 605

Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg
610 615 620

Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile
625 630 635 640

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

645 650 655

Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly
660 665 670

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

Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu
690 695 700

Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro
705 710 715 720

Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro
725 730 735

Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln
740 745 750

Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser
755 760 765

Gln Glu Arg Ser Pro Ser Tyr Ala Ser
770 775

<210> 432
<211> 777
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 432

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 Ala 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 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 Gly Glu Thr Gly Ser Ser Gly
580 585 590

Glu Gly Thr Gly Ser Thr Gly Ser Gly Ala Gly Glu Ser His Pro Ile
595 600 605

Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg
610 615 620

Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile
625 630 635 640

Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser
645 650 655

Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly
660 665 670

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

Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu
690 695 700

Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro
705 710 715 720

Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro
725 730 735

Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln
740 745 750

Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser
755 760 765

Gln Glu Arg Ser Pro Ser Tyr Ala Ser
770 775

<210> 433

<400> 433
000

<210> 434
<211> 771
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 434

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 Ala 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 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 Gly Gly Gly Gly Ser Gly Gly Gly
580 585 590

Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
595 600 605

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
610 615 620

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
625 630 635 640

Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala
645 650 655

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
660 665 670

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
675 680 685

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
690 695 700

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly
705 710 715 720

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
725 730 735

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
740 745 750

Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro Ser
755 760 765

Tyr Ala Ser
770

<210> 435
<211> 771
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 435

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 Ala 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 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 Gly Glu Thr Gly Ser Ser Gly Glu
580 585 590

Gly Thr Gly Ser Thr Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
595 600 605

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
610 615 620

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
625 630 635 640

Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala
645 650 655

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
660 665 670

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
675 680 685

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
690 695 700

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly
705 710 715 720

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
725 730 735

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
740 745 750

Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro Ser
755 760 765

Tyr Ala Ser
770

<210> 436

<211> 780
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 436

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 Ala 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 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 Gly Gly Gly Gly Ser Gly Gly Gly
580 585 590

Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
595 600 605

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
610 615 620

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
625 630 635 640

Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala
645 650 655

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
660 665 670

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
675 680 685

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
690 695 700

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Pro Gly Asn
705 710 715 720

Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu
725 730 735

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
740 745 750

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
755 760 765

Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
770 775 780

<210> 437
<211> 780
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 437

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 Ala 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 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 Gly Glu Thr Gly Ser Ser Gly Glu
580 585 590

Gly Thr Gly Ser Thr Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
595 600 605

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
610 615 620

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
625 630 635 640

Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala
645 650 655

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
660 665 670

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
675 680 685

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
690 695 700

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Pro Gly Asn
705 710 715 720

Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu
725 730 735

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
740 745 750

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
755 760 765

Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
770 775 780

<210> 438

<400> 438
000

<210> 439

<400> 439
000

<210> 440
<211> 767
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 440

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser Gly Glu Thr Gly
165 170 175

Ser Ser Gly Glu Gly Thr Asp Ala His Lys Ser Glu Val Ala His Arg
180 185 190

Phe Lys Asp Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala
195 200 205

Phe Ala Gln Tyr Leu Gln Gln Ala Pro Phe Glu Asp His Val Lys Leu
210 215 220

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

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

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

Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu Gln His Lys
275 280 285

Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val
290 295 300

Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr
305 310 315 320

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

Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln
340 345 350

Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg
355 360 365

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

Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg
385 390 395 400

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

Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu
420 425 430

Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu
435 440 445

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

Leu Leu Glu Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met
465 470 475 480

Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp
485 490 495

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

Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu
515 520 525

Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala
530 535 540

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

Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu
565 570 575

Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg
580 585 590

Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val
595 600 605

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

Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn
625 630 635 640

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

Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala
660 665 670

Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr
675 680 685

Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln

690 695 700

Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys
705 710 715 720

Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe
725 730 735

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

Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu
755 760 765

<210> 441
<211> 777
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 441

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser Gly Glu Thr Gly
165 170 175

Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly Ala Gly Glu Ser
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 Ala 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> 442
<211> 787
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 442

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser Gly Glu Thr Gly
165 170 175

Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly Ala Gly Glu Ser
180 185 190

Gly Thr Gly Glu Ser Gly Glu Gly Gly Ser Asp Ala His Lys Ser Glu
195 200 205

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

Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ala Pro Phe Glu Asp
225 230 235 240

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

Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
260 265 270

Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu
275 280 285

Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
290 295 300

Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
305 310 315 320

Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
325 330 335

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

Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
355 360 365

Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
370 375 380

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

Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
405 410 415

Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
420 425 430

Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
435 440 445

His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
450 455 460

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

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

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

Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
515 520 525

Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
530 535 540

Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
545 550 555 560

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

Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
580 585 590

Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
595 600 605

Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
610 615 620

Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
625 630 635 640

Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
645 650 655

Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
660 665 670

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

Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
690 695 700

Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
705 710 715 720

Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
725 730 735

His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
740 745 750

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

Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
770 775 780

Leu Gly Leu
785

<210> 443
<211> 786
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 443

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly
180 185 190

Ser Thr Gly Ser Gly Ala Gly Glu Ser Asp Ala His Lys Ser Glu Val
195 200 205

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

Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ala Pro Phe Glu Asp His
225 230 235 240

Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
245 250 255

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

Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met
275 280 285

Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu
290 295 300

Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu
305 310 315 320

Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu
325 330 335

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

Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu
355 360 365

Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp
370 375 380

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

Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala
405 410 415

Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val

420 425 430

Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His
435 440 445

Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr
450 455 460

Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys
465 470 475 480

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

Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu
500 505 510

Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu
515 520 525

Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val
530 535 540

Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys
545 550 555 560

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

Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn
580 585 590

Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu
595 600 605

Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu
610 615 620

Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys
625 630 635 640

His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
645 650 655

Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
660 665 670

Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
675 680 685

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

Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
705 710 715 720

Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
725 730 735

Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
740 745 750

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

Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
770 775 780

Gly Leu
785

<210> 444

<400> 444
000

<210> 445

<400> 445
000

<210> 446
<211> 964
<212> PRT

<213> Artificial

<220>
<223> Synthetic sequence

<400> 446

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser Gly Glu Thr Gly
165 170 175

Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly Ala Gly Glu Ser
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 Ala 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 Gly Gly Gly Gly Ser Gly Gly
770 775 780

Gly Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro
785 790 795 800

Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp
805 810 815

Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr
820 825 830

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

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

850 855 860

Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe
865 870 875 880

Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr
885 890 895

Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser
900 905 910

Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala
915 920 925

Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly
930 935 940

Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro
945 950 955 960

Ser Tyr Ala Ser

<210> 447
<211> 982
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 447

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly
180 185 190

Ser Thr Gly Ser Gly Ala Gly Glu Ser Asp Ala His Lys Ser Glu Val
195 200 205

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

Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ala Pro Phe Glu Asp His
225 230 235 240

Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
245 250 255

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

Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met

275 280 285

Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu
290 295 300

Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu
305 310 315 320

Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu
325 330 335

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

Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu
355 360 365

Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp
370 375 380

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

Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala
405 410 415

Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val
420 425 430

Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His
435 440 445

Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr
450 455 460

Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys
465 470 475 480

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

Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu
500 505 510

Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu
515 520 525

Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val
530 535 540

Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys
545 550 555 560

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

Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn
580 585 590

Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu
595 600 605

Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu
610 615 620

Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys
625 630 635 640

His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
645 650 655

Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
660 665 670

Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
675 680 685

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

Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
705 710 715 720

Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
725 730 735

Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
740 745 750

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

Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
770 775 780

Gly Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
785 790 795 800

Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
805 810 815

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
820 825 830

His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln
835 840 845

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
850 855 860

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
865 870 875 880

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
885 890 895

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
900 905 910

His Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp
915 920 925

Pro Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
930 935 940

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
945 950 955 960

Val Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg
965 970 975

Ser Pro Ser Tyr Ala Ser
980

<210> 448
<211> 963
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 448

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser Gly Glu Thr Gly
165 170 175

Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly Ala Gly Glu Ser
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 Ala 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 Gly Gly Gly Gly Ser Gly Gly Gly
770 775 780

Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
785 790 795 800

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
805 810 815

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
820 825 830

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

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
850 855 860

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
865 870 875 880

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
885 890 895

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly
900 905 910

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
915 920 925

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
930 935 940

Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Glu Arg Ser Pro Ser
945 950 955 960

Tyr Ala Ser

<210> 449
<211> 981
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 449

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly
180 185 190

Ser Thr Gly Ser Gly Ala Gly Glu Ser Asp Ala His Lys Ser Glu Val
195 200 205

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

Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ala Pro Phe Glu Asp His
225 230 235 240

Val Lys Leu Val Asn Glu Val Thr Glu Phe Ala Lys Thr Cys Val Ala
245 250 255

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

Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met
275 280 285

Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe Leu
290 295 300

Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro Glu
305 310 315 320

Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe Leu
325 330 335

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

Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu
355 360 365

Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp
370 375 380

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

Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala
405 410 415

Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu Val
420 425 430

Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys His
435 440 445

Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr
450 455 460

Ile Cys Glu Asn Gln Asp Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys
465 470 475 480

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

Asp Glu Met Pro Ala Asp Leu Pro Ser Leu Ala Ala Asp Phe Val Glu
500 505 510

Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu
515 520 525

Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser Val
530 535 540

Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys
545 550 555 560

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

Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln Asn
580 585 590

Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu
595 600 605

Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr Leu
610 615 620

Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys Lys
625 630 635 640

His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser Val
645 650 655

Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser Asp
660 665 670

Arg Val Thr Lys Cys Cys Thr Glu Ser Leu Val Asn Arg Arg Pro Cys
675 680 685

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

Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu Lys
705 710 715 720

Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys His
725 730 735

Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp Phe
740 745 750

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

Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala Leu
770 775 780

Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
785 790 795 800

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
805 810 815

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
820 825 830

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
835 840 845

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
850 855 860

Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly

865 870 875 880

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
885 890 895

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
900 905 910

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
915 920 925

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
930 935 940

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
945 950 955 960

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
965 970 975

Pro Ser Tyr Ala Ser
980

<210> 450
<211> 974
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 450

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
115 120 125

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
130 135 140

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
145 150 155 160

Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser Gly Glu Thr Gly
165 170 175

Ser Ser Gly Glu Gly Thr Gly Ser Thr Gly Ser Gly Ala Gly Glu Ser
180 185 190

Gly Thr Gly Glu Ser Gly Glu Gly Gly Ser Asp Ala His Lys Ser Glu
195 200 205

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

Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln Gln Ala Pro Phe Glu Asp
225 230 235 240

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

Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys Ser Leu His Thr Leu Phe
260 265 270

Gly Asp Lys Leu Cys Thr Val Ala Thr Leu Arg Glu Thr Tyr Gly Glu

275 280 285

Met Ala Asp Cys Cys Ala Lys Gln Glu Pro Glu Arg Asn Glu Cys Phe
290 295 300

Leu Gln His Lys Asp Asp Asn Pro Asn Leu Pro Arg Leu Val Arg Pro
305 310 315 320

Glu Val Asp Val Met Cys Thr Ala Phe His Asp Asn Glu Glu Thr Phe
325 330 335

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

Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg Tyr Lys Ala Ala Phe Thr
355 360 365

Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala Cys Leu Leu Pro Lys Leu
370 375 380

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

Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu Arg Ala Phe Lys Ala Trp
405 410 415

Ala Val Ala Arg Leu Ser Gln Arg Phe Pro Lys Ala Glu Phe Ala Glu
420 425 430

Val Ser Lys Leu Val Thr Asp Leu Thr Lys Val His Thr Glu Cys Cys
435 440 445

His Gly Asp Leu Leu Glu Cys Ala Asp Asp Arg Ala Asp Leu Ala Lys
450 455 460

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

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

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

Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala Glu Ala Lys Asp Val Phe
515 520 525

Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg Arg His Pro Asp Tyr Ser
530 535 540

Val Val Leu Leu Leu Arg Leu Ala Lys Thr Tyr Glu Thr Thr Leu Glu
545 550 555 560

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

Asp Glu Phe Lys Pro Leu Val Glu Glu Pro Gln Asn Leu Ile Lys Gln
580 585 590

Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu Tyr Lys Phe Gln Asn Ala
595 600 605

Leu Leu Val Arg Tyr Thr Lys Lys Val Pro Gln Val Ser Thr Pro Thr
610 615 620

Leu Val Glu Val Ser Arg Asn Leu Gly Lys Val Gly Ser Lys Cys Cys
625 630 635 640

Lys His Pro Glu Ala Lys Arg Met Pro Cys Ala Glu Asp Tyr Leu Ser
645 650 655

Val Val Leu Asn Gln Leu Cys Val Leu His Glu Lys Thr Pro Val Ser
660 665 670

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

Cys Phe Ser Ala Leu Glu Val Asp Glu Thr Tyr Val Pro Lys Glu Phe
690 695 700

Asn Ala Glu Thr Phe Thr Phe His Ala Asp Ile Cys Thr Leu Ser Glu
705 710 715 720

Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala Leu Val Glu Leu Val Lys
725 730 735

His Lys Pro Lys Ala Thr Lys Glu Gln Leu Lys Ala Val Met Asp Asp
740 745 750

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

Cys Phe Ala Glu Glu Gly Lys Lys Leu Val Ala Ala Ser Gln Ala Ala
770 775 780

Leu Gly Leu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
785 790 795 800

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
805 810 815

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
820 825 830

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
835 840 845

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
850 855 860

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
865 870 875 880

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
885 890 895

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
900 905 910

Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg
915 920 925

Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly
930 935 940

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
945 950 955 960

Met Val Glu Pro Ser Gln Glu Arg Ser Pro Ser Tyr Ala Ser
965 970

<210> 451
<211> 992
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 451

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
1 5 10 15

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
20 25 30

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
35 40 45

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
50 55 60

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

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
85 90 95

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
100 105 110

Gly Leu Pro Leu His Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro
115 120 125

Ala Pro Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro
130 135 140

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
145 150 155 160

Gly Ser Ser Asp Pro Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser
165 170 175

Pro Ser Tyr Ala Ser Gly Glu Thr Gly Ser Ser Gly Glu Gly Thr Gly
180 185 190

Ser Thr Gly Ser Gly Ala Gly Glu Ser Gly Thr Gly Glu Ser Gly Glu
195 200 205

Gly Gly Ser Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp
210 215 220

Leu Gly Glu Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln
225 230 235 240

Tyr Leu Gln Gln Ala Pro Phe Glu Asp His Val Lys Leu Val Asn Glu
245 250 255

Val Thr Glu Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn
260 265 270

Cys Asp Lys Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val
275 280 285

Ala Thr Leu Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys
290 295 300

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

Pro Asn Leu Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr
325 330 335

Ala Phe His Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu
340 345 350

Ile Ala Arg Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe
355 360 365

Ala Lys Arg Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp
370 375 380

Lys Ala Ala Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly
385 390 395 400

Lys Ala Ser Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys
405 410 415

Phe Gly Glu Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln
420 425 430

Arg Phe Pro Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp
435 440 445

Leu Thr Lys Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys
450 455 460

Ala Asp Asp Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp
465 470 475 480

Ser Ile Ser Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu
485 490 495

Lys Ser His Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp
500 505 510

Leu Pro Ser Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys
515 520 525

Asn Tyr Ala Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu
530 535 540

Tyr Ala Arg Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu
545 550 555 560

Ala Lys Thr Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp
565 570 575

Pro His Glu Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val

580 585 590

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

Leu Gly Glu Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys
610 615 620

Lys Val Pro Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn
625 630 635 640

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

Met Pro Cys Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys
660 665 670

Val Leu His Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys
675 680 685

Thr Glu Ser Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val
690 695 700

Asp Glu Thr Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe
705 710 715 720

His Ala Asp Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys
725 730 735

Gln Thr Ala Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys
740 745 750

Glu Gln Leu Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys
755 760 765

Cys Cys Lys Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys
770 775 780

Lys Leu Val Ala Ala Ser Gln Ala Ala Leu Gly Leu Gly Gly Gly Gly
785 790 795 800

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp
805 810 815

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

Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu
835 840 845

Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu
850 855 860

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
865 870 875 880

Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser
885 890 895

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
900 905 910

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His
915 920 925

Leu Pro Gly Asn Lys Ser Pro His Arg Asp Pro Ala Pro Arg Gly Pro
930 935 940

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
945 950 955 960

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
965 970 975

Leu Ser Met Val Gly Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
980 985 990

<210> 452
<211> 272
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 452

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

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

Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln
115 120 125

Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala
130 135 140

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

Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln
165 170 175

Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala
180 185 190

Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln
195 200 205

Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro
210 215 220

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
225 230 235 240

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
245 250 255

Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
260 265 270

<210> 453
<211> 275
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 453

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

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

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp

115 120 125

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
130 135 140

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

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
165 170 175

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
180 185 190

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
195 200 205

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly
210 215 220

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
225 230 235 240

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
245 250 255

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

Tyr Ala Ser
275

<210> 454
<211> 280
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 454

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Glu Glu Glu Glu Asp Glu Glu Glu Glu Asp His Pro Ile Pro
100 105 110

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

Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg
130 135 140

Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu
145 150 155 160

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
165 170 175

Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly
180 185 190

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
195 200 205

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

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

225 230 235 240

Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro
245 250 255

Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln
260 265 270

Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 455
<211> 280
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 455

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro His Pro Ile Pro
100 105 110

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

Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg
130 135 140

Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu
145 150 155 160

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
165 170 175

Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly
180 185 190

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
195 200 205

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

His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly
225 230 235 240

Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro
245 250 255

Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln
260 265 270

Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 456
<211> 282
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 456

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Gly Ser His His His His His His His His Gly Ser His Pro
100 105 110

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

Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu
130 135 140

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

Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu
165 170 175

Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu
180 185 190

Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu
195 200 205

Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu
210 215 220

Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu
225 230 235 240

Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro
245 250 255

Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro
260 265 270

Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 457
<211> 285
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 457

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
115 120 125

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
130 135 140

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

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
165 170 175

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
180 185 190

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
195 200 205

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
210 215 220

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
225 230 235 240

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
245 250 255

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
260 265 270

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 458
<211> 285
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 458

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
115 120 125

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
130 135 140

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

Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile
165 170 175

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
180 185 190

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
195 200 205

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
210 215 220

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
225 230 235 240

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
245 250 255

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
260 265 270

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 459
<211> 286
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 459

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser
100 105 110

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
115 120 125

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
130 135 140

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

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
165 170 175

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
180 185 190

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
195 200 205

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
210 215 220

Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg
225 230 235 240

Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly
245 250 255

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

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 460
<211> 288
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 460

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr

20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro Pro Thr
100 105 110

Pro Ser Pro Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe
115 120 125

Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln
130 135 140

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

Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro
165 170 175

Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln
180 185 190

Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala
195 200 205

Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln
210 215 220

Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro
225 230 235 240

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
245 250 255

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

Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280 285

<210> 461
<211> 293
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 461

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Arg Gly Gly Glu Glu Lys Lys Lys Glu Lys Glu Lys Glu Glu
100 105 110

Gln Glu Glu Arg Glu Thr Lys Thr Pro His Pro Ile Pro Asp Ser Ser
115 120 125

Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr

130 135 140

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

Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu
165 170 175

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

Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His
195 200 205

Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly
210 215 220

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

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

Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val
260 265 270

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

Pro Ser Tyr Ala Ser
290

<210> 462
<211> 295
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 462

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp
115 120 125

Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu
130 135 140

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

Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu
165 170 175

Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys
180 185 190

Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser
195 200 205

Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu
210 215 220

Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His

225 230 235 240

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

Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro
260 265 270

Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly
275 280 285

Arg Ser Pro Ser Tyr Ala Ser
290 295

<210> 463
<211> 300
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 463

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu
100 105 110

Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro
115 120 125

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
130 135 140

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
145 150 155 160

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
165 170 175

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

Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly
195 200 205

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

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
225 230 235 240

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

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
260 265 270

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
275 280 285

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
290 295 300

<210> 464
<211> 306
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 464

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro Pro Thr
100 105 110

Pro Ser Pro Ser Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro
115 120 125

Pro Thr Pro Ser Pro Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu
130 135 140

Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala
145 150 155 160

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

Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu
180 185 190

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

Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro
210 215 220

Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val
225 230 235 240

Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg
245 250 255

Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro
260 265 270

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

Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr
290 295 300

Ala Ser
305

<210> 465
<211> 275
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 465

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu
100 105 110

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
115 120 125

Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val
130 135 140

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

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
165 170 175

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
180 185 190

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
195 200 205

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly
210 215 220

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
225 230 235 240

Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser
245 250 255

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

Tyr Ala Ser
275

<210> 466
<211> 290
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 466

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu
100 105 110

Pro Pro Thr Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu
115 120 125

Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala
130 135 140

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

Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu
165 170 175

Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu
180 185 190

Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro
195 200 205

Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val
210 215 220

Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg
225 230 235 240

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

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

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

Ala Ser
290

<210> 467
<211> 310
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 467

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu
100 105 110

Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro
115 120 125

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro His Pro Ile Pro Asp Ser
130 135 140

Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr
145 150 155 160

Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu Glu Ile Arg Glu Asp
165 170 175

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

Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr
195 200 205

Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu
210 215 220

His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp
225 230 235 240

Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu
245 250 255

Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro
260 265 270

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
275 280 285

Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg
290 295 300

Ser Pro Ser Tyr Ala Ser
305 310

<210> 468
<211> 290
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 468

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Pro Ser Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu
115 120 125

Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala
130 135 140

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

Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu
165 170 175

Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu
180 185 190

Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro
195 200 205

Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val
210 215 220

Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg
225 230 235 240

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

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

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

Ala Ser
290

<210> 469
<211> 284
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 469

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

1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Gly Gly Gly Ser Pro Thr Pro Glu Pro
100 105 110

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
115 120 125

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
130 135 140

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
145 150 155 160

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
165 170 175

Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly
180 185 190

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
195 200 205

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
210 215 220

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
225 230 235 240

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
245 250 255

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
260 265 270

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 470
<211> 284
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 470

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Glu Glu Glu Asp Pro Thr Pro Glu Pro
100 105 110

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val

115 120 125

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
130 135 140

Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser
145 150 155 160

Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln
165 170 175

Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly
180 185 190

Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg
195 200 205

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
210 215 220

Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu
225 230 235 240

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
245 250 255

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
260 265 270

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
275 280

<210> 471
<211> 294
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 471

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Glu Glu Glu Asp
100 105 110

Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro His Pro Ile Pro Asp Ser
115 120 125

Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr
130 135 140

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

Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln
165 170 175

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

Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu
195 200 205

His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp
210 215 220

Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu

225 230 235 240

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

Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp
260 265 270

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

Ser Pro Ser Tyr Ala Ser
290

<210> 472
<211> 304
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 472

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Glu Glu Glu Asp Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro
115 120 125

Ser Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe
130 135 140

Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln
145 150 155 160

Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala
165 170 175

Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro
180 185 190

Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln
195 200 205

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

Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln
225 230 235 240

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

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
260 265 270

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
275 280 285

Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
290 295 300

<210> 473
<211> 305
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 473

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
100 105 110

Pro Gly Gly Gly Gly Ser Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro
115 120 125

Pro Ser Pro Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln
130 135 140

Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln
145 150 155 160

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

Ala Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys
180 185 190

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

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

Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr
225 230 235 240

Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly
245 250 255

Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu
260 265 270

Pro Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp
275 280 285

Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
290 295 300

Ser
305

<210> 474
<211> 296
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 474

Gly Val Ser Asp Val Pro Arg Asp Leu Glu Val Val Ala Ala Thr Pro
1 5 10 15

Thr Ser Leu Leu Ile Ser Trp His Ser Tyr Tyr Glu Gln Asn Ser Tyr
20 25 30

Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn Ser Pro Val Gln Glu
35 40 45

Phe Thr Val Pro Tyr Ser Gln Thr Thr Ala Thr Ile Ser Gly Leu Lys
50 55 60

Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala Val Tyr Gly Ser Lys
65 70 75 80

Tyr Tyr Tyr Pro Ile Ser Ile Asn Tyr Arg Thr Glu Ile Glu Lys Pro
85 90 95

Ser Gln Pro Ser Pro Glu Pro Thr Pro Glu Pro Ser Pro Glu Pro Pro
100 105 110

Thr Pro Glu Pro Ser Pro Glu Pro Thr Pro Glu Pro His Pro Ile Pro
115 120 125

Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr
130 135 140

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

Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro Glu Ser Leu
165 170 175

Leu Gln Leu Lys Ala Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val
180 185 190

Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly
195 200 205

Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu
210 215 220

Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu
225 230 235 240

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

Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala Pro Gln Pro
260 265 270

Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln
275 280 285

Gly Arg Ser Pro Ser Tyr Ala Ser
290 295

<210> 475
<211> 414
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 475

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 Asp Glu Leu 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 Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly
225 230 235 240

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
245 250 255

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
260 265 270

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
275 280 285

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
290 295 300

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
305 310 315 320

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
325 330 335

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
340 345 350

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

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

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
385 390 395 400

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410

<210> 476
<211> 427
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 476

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 Asp Glu Leu 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 Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly
225 230 235 240

Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser His
245 250 255

Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg
260 265 270

Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu
275 280 285

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

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

Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly Ala
325 330 335

Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe Arg Glu
340 345 350

Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly
355 360 365

Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe Leu Pro
370 375 380

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala
385 390 395 400

Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu
405 410 415

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
420 425

<210> 477
<211> 429
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 477

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 Asp Glu Leu 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 Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro
225 230 235 240

Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro Glu Pro Pro Thr Pro Glu
245 250 255

Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln
260 265 270

Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala
275 280 285

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

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

Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp
325 330 335

Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser Phe
340 345 350

Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala
355 360 365

His Gly Leu Pro Leu His Leu Gly Ser Gly Arg Gly Pro Ala Arg Phe
370 375 380

Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile
385 390 395 400

Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met
405 410 415

Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
420 425

<210> 478
<211> 414
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 478

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 Asp Glu Leu 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 Pro Ser Pro Glu Pro Pro Thr Pro Glu Pro Pro Ser Pro
225 230 235 240

Glu Pro His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
245 250 255

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
260 265 270

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
275 280 285

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
290 295 300

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
305 310 315 320

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
325 330 335

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
340 345 350

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

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

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
385 390 395 400

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410

<210> 479
<211> 411
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 479

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 Asp Glu Leu 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 Gly Ser His His His His His His His His Gly Ser His
225 230 235 240

Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val Arg
245 250 255

Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His Leu
260 265 270

Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp Gln Ser Pro
275 280 285

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

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

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

Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His Gly
340 345 350

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

Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu Ala
370 375 380

Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val Glu
385 390 395 400

Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410

<210> 480
<211> 416
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 480

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 Asp Glu Leu 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 Glu Leu Gln Leu Glu Glu Ser Ala Ala Glu Ala Gln Glu
225 230 235 240

Gly Glu Leu Glu His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe
245 250 255

Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln
260 265 270

Thr Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala
275 280 285

Ala Asp Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro
290 295 300

Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln
305 310 315 320

Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala
325 330 335

Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln
340 345 350

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

Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro
370 375 380

Pro Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro
385 390 395 400

Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410 415

<210> 481
<211> 415
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 481

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 Asp Glu Leu 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 Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly
225 230 235 240

Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly
245 250 255

Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr
260 265 270

Glu Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala
275 280 285

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

Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg
305 310 315 320

Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys
325 330 335

Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser
340 345 350

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

Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro
370 375 380

Gly Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu
385 390 395 400

Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410 415

<210> 482
<211> 414
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 482

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 Asp Glu Leu 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 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
225 230 235 240

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
245 250 255

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
260 265 270

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
275 280 285

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
290 295 300

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
305 310 315 320

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
325 330 335

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
340 345 350

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

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

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
385 390 395 400

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410

<210> 483
<211> 412
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 483

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 Asp Glu Leu 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 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
225 230 235 240

His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly Gln Val
245 250 255

Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu Ala His
260 265 270

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

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

Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro Asp Gly
305 310 315 320

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

Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu Ala His
340 345 350

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

Pro Leu Pro Gly Leu Pro Pro Ala Pro Pro Glu Pro Pro Gly Ile Leu
370 375 380

Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser Met Val
385 390 395 400

Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410

<210> 484
<211> 413
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 484

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 Asp Glu Leu 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 Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly
225 230 235 240

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
245 250 255

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
260 265 270

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
275 280 285

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
290 295 300

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
305 310 315 320

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
325 330 335

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
340 345 350

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

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

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
385 390 395 400

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala
405 410

<210> 485

<211> 411
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 485

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 Asp Glu Leu 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 Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly
225 230 235 240

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
245 250 255

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
260 265 270

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
275 280 285

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
290 295 300

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
305 310 315 320

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
325 330 335

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
340 345 350

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

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

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
385 390 395 400

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser

405 410

<210> 486
<211> 419
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 486

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

Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45

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

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65 70 75 80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110

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

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

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175

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

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205

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

Ser Leu Ser Leu Ser Pro Gly Lys Gly Gly Gly Gly Gly Ser Gly Gly
225 230 235 240

Gly Ser Gly Gly Gly Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu
245 250 255

Leu Gln Phe Gly Gly Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp
260 265 270

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

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

Leu Lys Pro Gly Val Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe
305 310 315 320

Leu Cys Gln Arg Pro Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp
325 330 335

Pro Glu Ala Cys Ser Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn
340 345 350

Val Tyr Gln Ser Glu Ala His Gly Leu Pro Leu His Leu Gly Ser Gly
355 360 365

Arg Gly Pro Ala Arg Phe Leu Pro Leu Pro Gly Leu Pro Pro Ala Pro
370 375 380

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

385 390 395 400

Ser Asp Pro Leu Ser Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser
405 410 415

Tyr Ala Ser

<210> 487
<211> 414
<212> PRT
<213> Artificial

<220>
<223> Synthetic sequence

<400> 487

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 Asp 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 Gly Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly
225 230 235 240

Gly Ser His Pro Ile Pro Asp Ser Ser Pro Leu Leu Gln Phe Gly Gly
245 250 255

Gln Val Arg Gln Arg Tyr Leu Tyr Thr Asp Asp Ala Gln Gln Thr Glu
260 265 270

Ala His Leu Glu Ile Arg Glu Asp Gly Thr Val Gly Gly Ala Ala Asp
275 280 285

Gln Ser Pro Glu Ser Leu Leu Gln Leu Lys Ala Leu Lys Pro Gly Val
290 295 300

Ile Gln Ile Leu Gly Val Lys Thr Ser Arg Phe Leu Cys Gln Arg Pro
305 310 315 320

Asp Gly Ala Leu Tyr Gly Ser Leu His Phe Asp Pro Glu Ala Cys Ser
325 330 335

Phe Arg Glu Leu Leu Leu Glu Asp Gly Tyr Asn Val Tyr Gln Ser Glu
340 345 350

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

355 360 365

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

Ile Leu Ala Pro Gln Pro Pro Asp Val Gly Ser Ser Asp Pro Leu Ser
385 390 395 400

Met Val Glu Pro Ser Gln Gly Arg Ser Pro Ser Tyr Ala Ser
405 410