

SEQUENCE LISTING

<110> KITE PHARMA, INC.

<120> CHIMERIC RECEPTORS AND METHODS OF USE THEREOF

<130> K-1029.02US

<140> 15/476,699

<141> 2017-03-31

<150> 62/317,068

<151> 2016-04-01

<160> 147

<170> PatentIn version 3.5

<210> 1

<211> 294

<212> DNA

<213> Homo sapiens

<400> 1

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tcacccttgt tccttggtcc atccaagcca ttctgggtgt tggtcgtagt ggggtggagtc 120

ctcgcttgtt actctctgct cgtcacctg gctttataa tctctgggt tagatccaaa 180

agaagccgcc tgctccatag cgattacatg aatatgactc cacgccgcc tggccccaca 240

aggaaacact accagcctta cgcaccacct agagatttcg ctgcctatcg gaggc 294

<210> 2

<211> 98

<212> PRT

<213> Homo sapiens

<400> 2

Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys

1 5 10 15

His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp

20 25 30

Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val

35 40 45

Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu
50 55 60

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

Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr
85 90 95

Arg Ser

<210> 3
<211> 90
<212> DNA
<213> Homo sapiens

<400> 3
cttgataatg aaaagtcaaa cggaacaatc attcacgtga agggcaagca cctctgtccg 60

tcacccttgt tccttgggtc atccaagcca 90

<210> 4
<211> 30
<212> PRT
<213> Homo sapiens

<400> 4
Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys
1 5 10 15

His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro
20 25 30

<210> 5
<211> 81
<212> DNA
<213> Homo sapiens

<400> 5
ttctgggtgt tggtcgtagt ggggtggagtc ctcgcttggt actctctgct cgtcaccgtg 60

gcttttataa tcttctgggt t 81

<210> 6
<211> 27

<213> Homo sapiens

 $\langle 400 \rangle$ 6

Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu
1 5 10 15

Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val
20 25

<210> 7

<211> 123

<212> DNA

<213> Homo sapiens

 $\langle 400 \rangle$ 7

agatccaaaa gaagccgcct gctccatagc gattacatga atatgactcc acgccgcctt 60

ggccccacaa ggaaacacta ccagccttac gcaccaccta gagatttcgc tgcctatcgg 120

agc 123

 $\langle 210 \rangle$ 8

<211> 41

<212> PRT

<213> Homo sapiens

 $\langle 400 \rangle$ 8

Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr
1 5 10 15

Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro
20 25 30

Pro Arg Asp Phe Ala Ala Tyr Arg Ser
35 40

<210> 9

<211> 336

<212> DNA

<213> Homo sapiens

<400> 9

agggtgaagt ttccagatc tgcagatgca ccagcgtatc agcagggcca gaaccaactg 60

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cgggaccctg agatgggtgg caaaccaaga cgaaaaaaccc cccaggaggg tctctataat 180

gagctgcaga aggataagat ggctgaagcc tattctgaaa taggcatgaa aggagagcgg 240
agaaggggaa aagggcacga cggttgtac cagggactca gcactgctac gaaggatact 300
tatgacgctc tccacatgca agccctgccca cctagg 336

<210> 10
<211> 112
<212> PRT
<213> Homo sapiens

<400> 10
Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly
1 5 10 15

Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr
20 25 30

Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys
35 40 45

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

Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg
65 70 75 80

Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala
85 90 95

Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
100 105 110

<210> 11
<211> 117
<212> DNA
<213> Homo sapiens

<400> 11
attgaggtga tgtatccacc gccttacctg gataacgaaa agagtaacgg taccatcatt 60

cacgtgaaag gtaaacacct gtgtccttct ccctcttcc ccgggccatc aaagccc 117

<210> 12

<211> 39
<212> PRT
<213> Homo sapiens

<400> 12
Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn
1 5 10 15

Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu
20 25 30

Phe Pro Gly Pro Ser Lys Pro
35

<210> 13
<211> 288
<212> DNA
<213> Homo sapiens

<400> 13
gctgcagcat tgagcaactc aataatgtat tttagtcact ttgtaccagt gttcttgccg 60

gctaagccta ctaccacacc cgctccacgg ccacctaccc cagctcctac catcgcttca 120

cagcctctgt ccctgcgccc agaggcttgc cgaccggccg caggggggcgc tggtcatacc 180

agaggactgg atttcgctg cgatatctat atctgggcac ccctggccgg aacctgcggc 240

gtactcctgc tgtccctggg catcacgctc tattgtaac acaggaac 288

<210> 14
<211> 96
<212> PRT
<213> Homo sapiens

<400> 14
Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser His Phe Val Pro
1 5 10 15

Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro
20 25 30

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

Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp
50 55 60

Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys Asn His Arg Asn
85 90 95

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<210> 16
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr
20 25 30

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

35 40 45

Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

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

Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 17

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 17

Gly Gly Ser Ile Ser Ser Tyr
1 5

<210> 18

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 18

Tyr Tyr Ser Gly Ser
1 5

<210> 19

<211> 14

<212> PRT

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<210> 20
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<210> 21
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

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Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 22

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 22

Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn
1 5 10

<210> 23

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 23

Asp Ala Ser Asn Leu Glu Thr
1 5

<210> 24

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 24
Gln Gln Tyr Gly Asn Leu Pro Phe Thr
1 5

<210> 25
<211> 1440
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 25
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcagggtcc aactgcaaga aagcggaccc ggactggtga agccttctga gacacttagt 120

ctgacgtgca cggtcagtgg cggctccatc tcctcctatt attggtcatg gatacgacaa 180

cccccaggta agggcctgga atggattggc tatatctact attcaggaag cacgaactac 240

aatcccagcc tgaagtcccg agtgacaatt tcagtagata ccagtaaaaa ccagttcagt 300

cttaactgt caagcgtgac agctgccgac accgctgtgt attactgctg ctactgggtg 360

tattgtggag gggattgtta tagcgggttc gattattggg gacaggggaac cctggtgact 420

gtatcttccg gcggcggcgg ctcagggggg ggcggtagtg gcggtggggg ttccgatatt 480

caactgacac aatccccag ctactcagc gccagcgtgg gggacagggt tagctttacc 540

tgtcaagcct ctaggatat aaataacttt ctgaactggt atcaacagaa gcctgggaag 600

gcgccccaaac tcctgatcta tgatgcgtcc aacctggaaa ctggcgtgcc ttacgcttt 660

agcggctctg gcagtggtag agacttcact ttaccatct cttcactca gccggaggac 720

atgccacat attactgtca acagtacgga aactggcctt ttacttttgg aggcgggcacc 780

aaagttgaaa tcaaaagggc cgctgccctg gataacgaaa agagcaatgg gactataata 840

catgttaaag gaaaacacct gtgtccatct cccctgttcc ctggaccgtc aaagccattt 900

tgggtgctcg tggttgtcgg tggcgttctc gcctgttata gcttgctggt gacagtagcc 960

ttcattatct ttgggtgag atccaaaaga agccgcctgc tccatagcga ttacatgaat 1020

atgactccac gccgccctgg cccacaagg aaacactacc agccttacgc accacctaga 1080

gatttcgctg cctatcggag cagggtgaag tttccagat ctgcagatgc accagcgat 1140

cagcaggggcc agaaccaact gtataacgag ctcaacctgg gacgcaggga agagtatgac 1200
gttttgaca agcgcagagg acgggaccct gagatgggtg gcaaaccaag acgaaaaaac 1260
ccccaggagg gtctctataa tgagctgcag aaggataaga tggctgaagc ctattctgaa 1320
ataggcatga aaggagagcg gagaagggga aaagggcacg acggttgta ccagggactc 1380
agcactgcta cgaaggatac ttatgacgct ctccacatgc aagccctgcc acctaggtaa 1440

<210> 26
<211> 479
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 26
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly
35 40 45

Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys
50 55 60

Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr
65 70 75 80

Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys
85 90 95

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

Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser
115 120 125

Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
145 150 155 160

Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
165 170 175

Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn
180 185 190

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

Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
210 215 220

Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp
225 230 235 240

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

Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Leu Asp Asn
260 265 270

Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys
275 280 285

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

Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala
305 310 315 320

Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser
325 330 335

Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His
340 345 350

Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg
355 360 365

Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln
370 375 380

Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp
385 390 395 400

Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro
405 410 415

Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp
420 425 430

Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg
435 440 445

Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr
450 455 460

Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
465 470 475

<210> 27
<211> 1374
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 27
caggtccaac tgcaagaaag cggacccgga ctggtgaagc cttctgagac acttagtctg 60

acgtgcacgg tcagtggcgg ctccatctcc tcctattatt ggatcatggat acgacaaccc 120

ccaggtaagg gcctggaatg gattggctat atctactatt caggaagcac gaactacaat 180

cccagcctga agtcccagat gacaatttca gtagatacca gtaaaaacca gttcagtctt 240

aaactgtcaa gcgtgacagc tgccgacacc gctgtgtatt actgctctc actggtgtat 300

tgtggagggg attgttatag cgggttcgat tattggggac agggaaccct ggtgactgta 360

tcttcggcg gcggcggctc aggggggtggc ggtagtggcg gtgggggttc cgatattcaa 420
ctgacacaat cccccagctc actcagcgcc agcgtggggg acagggttag ctttacctgt 480
caagcctctc aggatataaa taactttctg aactggatc aacagaagcc tgggaaggcg 540
cccaaactcc tgatctatga tgcgtccaac ctggaaactg gcgtgccttc acgctttagc 600
ggctctggca gtggtacaga cttactttt accatctctt cacttcagcc ggaggacatc 660
gccacatatt actgtcaaca gtacggaaac ttgcccttta ctttggagg cggcaccaaa 720
gttgaaatca aaagggccgc tgcctggat aacgaaaaga gcaatgggac tataatacat 780
gttaaaggaa aacacctgtg tccatctccc ctgttcctg gaccgtcaaa gccatttgg 840
gtgctcgtgg ttgctgggtg cgttctcgcc tgttatagct tgctggtgac agtagccttc 900
attatctttt gggtgagatc caaaagaagc cgctgctcc atagcgatta catgaatatg 960
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cagggccaga accaactgta taacgagctc aacctgggac gcagggaaga gtatgacgtt 1140
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caggaggggtc tctataatga gctgcagaag gataagatgg ctgaagccta ttctgaaata 1260
ggcatgaaag gagagcggag aaggggaaaa gggcacgacg gttgtacca gggactcagc 1320
actgctacga aggatactta tgacgctctc cacatgcaag ccctgccacc tagg 1374

<210> 28
<211> 458
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 28
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

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

Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Leu Thr Gln Ser
130 135 140

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Ser Phe Thr Cys
145 150 155 160

Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln Gln Lys
165 170 175

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

Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
195 200 205

Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr
210 215 220

Cys Gln Gln Tyr Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly Thr Lys
225 230 235 240

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

Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe
260 265 270

Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val
275 280 285

Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp
290 295 300

Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met
305 310 315 320

Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala
325 330 335

Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg
340 345 350

Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn
355 360 365

Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg
370 375 380

Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro
385 390 395 400

Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala
405 410 415

Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His
420 425 430

Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp
435 440 445

Ala Leu His Met Gln Ala Leu Pro Pro Arg
450 455

<210> 29
<211> 1467
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 29
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60
ccgcaggtgc agctgcagga atccggaccg gggctggtga agcccagcga gactctgagt 120
ctcacgtgta cagtttctgg aggtagcatt agtcctact attggtcatg gataaggcag 180
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gtttctccg gggggggagg ctctgggggc ggaggctcag gtggtggagg cagcgacatc 480
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tgtcaggcct ctaggatat taataacttt ctgaattggg atcagcaaaa gcccggaag 600
gcaccaagc tgttgattta cgacgccagt aacctggaga caggcgtgcc ctcccggttt 660
agtggtagcg gaagcggtag ggattttacc ttactatca gctctctcca acccgaagac 720
attgcaacct actattgtca acaatatgga aacctgcctt ttacatttgg cggcggcacc 780
aagggtggaga ttaagcgggc ggcagctatt gaggtgatgt atccaccgcc ttacctggat 840
aacgaaaaga gtaacggtag catcattcac gtgaaaggta aacacctgtg tccttctccc 900
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cgctgtctcc atagcgatta catgaatatg actccacgcc gccctggccc cacaaggaaa 1080
cactaccagc cttacgcacc acctagagat ttcgtgcct atcggagcag ggtgaagttt 1140
tccagatctg cagatgcacc agcgtatcag cagggccaga accaactgta taacgagctc 1200
aacctgggac gcagggaaga gtatgacgtt ttggacaagc gcagaggacg ggaccctgag 1260
atgggtggca aaccaagacg aaaaaacccc caggagggtc tctataatga gctgcagaag 1320

gataagatgg ctgaagccta ttctgaaata ggcatgaaag gagagcggag aaggggaaaa 1380

gggcacgacg gttgtacca gggactcagc actgctacga aggatactta tgacgtctc 1440

cacatgcaag ccctgccacc taggtaa 1467

<210> 30

<211> 488

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 30

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu

1 5 10 15

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

20 25 30

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

35 40 45

Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys

50 55 60

Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr

65 70 75 80

Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys

85 90 95

Asn Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala

100 105 110

Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser

115 120 125

Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly

130 135 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Asp Ile

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

Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala
370 375 380

Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu
385 390 395 400

Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly
405 410 415

Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu
420 425 430

Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser
435 440 445

Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly
450 455 460

Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu
465 470 475 480

His Met Gln Ala Leu Pro Pro Arg
485

<210> 31
<211> 1401
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 31
caggtgcagc tgcaggaatc cggaccgggg ctggtgaagc ccagcgagac tctgagtctc 60

acgtgtacag ttctggagg tagcattagc tcctactatt ggtcatggat aaggcagccc 120

cccgggaagg gattggaatg gatcggctat atttactaca gtgggagcac caattacaac 180

ccctcactga agtctagagt tacaatcagc gttgacacct caaagaatca gttcagtttg 240

aaattgtcta gcgtcacagc agctgataca gccgtctatt attgtgtttc tctggtctat 300

tgcggtgggg attgttacag tggctttgac tattgggggc aggttactct ggttacagtt 360

tcttccgggg ggggaggctc tgggggcgga ggctcaggtg gtggaggcag cgacatccag 420

ttgacacaga gcccgagttc cttgtccgcc tccgtcgggg atagagtgtc atttacctgt 480

caggcctctc aggatattaa taactttctg aattgggtatc agcaaaagcc cggaaaggca 540

cccaagctgt tgatttacga cgccagtaac ctggagacag gcgtgccctc ccggtttagt 600

ggtagcggaa gcggtacgga ttttacctt actatcagct ctctccaacc cgaagacatt 660

gcaacctact attgtcaaca atatggaaac ctgccttta catttggcgg cggcaccaag 720

gtggagatta agcgggcggc agctattgag gtgatgtatc caccgcctta cctggataac 780

gaaaagagta acggtacat cattcacgtg aaaggtaaac acctgtgtcc ttctccctc 840

ttccccgggc catcaaagcc cttctgggtt cttgtggtcg tgggaggcgt gcttgcttgt 900

tattctctgc tcgttaccgt ggcgtttatc atttttggg ttagatcaa aagaagccgc 960

ctgtccata gcgattacat gaatatgact ccacgccgcc ctggccccac aaggaaacac 1020

taccagcctt acgcaccacc tagagatttc gctgcctatc ggagcagggt gaagttttcc 1080

agatctgcag atgcaccagc gtatcagcag ggccagaacc aactgtataa cgagctcaac 1140

ctgggacgca gggaagagta tgacgttttg gacaagcgca gaggacggga ccctgagatg 1200

ggtggcaaac caagacgaaa aaacccccag gagggctctc ataatgagct gcagaaggat 1260

aagatggctg aagcctattc tgaaataggc atgaaaggag agcggagaag gggaaaaggg 1320

cacgacgggt tgtaccaggg actcagcact gctacgaagg atacttatga cgctctccac 1380

atgcaagccc tgccacctag g 1401

<210> 32
<211> 467
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 32
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

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

Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Leu Thr Gln Ser
130 135 140

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Ser Phe Thr Cys
145 150 155 160

Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln Gln Lys
165 170 175

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

Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
195 200 205

Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr
210 215 220

Cys Gln Gln Tyr Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly Thr Lys
225 230 235 240

Val Glu Ile Lys Arg Ala Ala Ile Glu Val Met Tyr Pro Pro Pro
245 250 255

Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly
260 265 270

Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe
275 280 285

Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu
290 295 300

Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg
305 310 315 320

Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro
325 330 335

Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala
340 345 350

Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
355 360 365

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
370 375 380

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met
385 390 395 400

Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu
405 410 415

Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys
420 425 430

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
435 440 445

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
450 455 460

Pro Pro Arg
465

<210> 33
<211> 1548
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 33
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcaggtgc aattgcaaga gtccggcccc ggactcgta aaccagtgga gacgcttagc 120

ctgacctgta ccgtctcagg gggcagcatc tcctcttatt actggagctg gatcaggcag 180

cctccaggaa aaggccttga atggattggg tacatctact actctggctc aacaaattat 240

aatccatccc tgaagtcccg cgtgactatc tctgtggaca ccagcaagaa tcagttttca 300

ctgaagttgt ctagtgttac cgcgggccgac accgccgtat actactgtgt gtctcttggtg 360

tactgtggcg gcgactgcta ttccgggttc gactactggg gccaaaggac tctggaacc 420

gtgtcctcag gcggcggcgg gtcaggagga ggcggcagtg gaggtggcgg ctccgacatc 480

cagctgacac aatcaccatc ttcctttca gcttcagtcg gggacagagt gtccttcaca 540

tgccaggcca gccaggatat caataacttc ctgaactggg accaacagaa acccggaag 600

gctccaaagc tcctgatcta tgatgcttc aacctggaga ccggcgtgcc ctccaggttc 660

agtggttcag gatcaggcac tgactttacg ttcaccatat ccagtcttca gcccgaagac 720

attgcaacct attactgcca acaatacggg aaccttcct ttacattcgg aggcggcacc 780

aagggtgaaa tcaaaagggc tgcagcattg agcaactcaa taatgtattt tagtcacttt 840

gtaccagtgt tcttgccggc taagcctact accacacccg ctccacggcc acctaccca 900

gctcctacca tcgcttcaca gcctctgtcc ctgcgccag aggcttgccg accggccgca 960

ggggggcgctg ttcataccag aggactggat ttgcctgcg atatctatat ctgggcaccc 1020

ctggccggaa cctgcggcgt actcctgctg tcctgtgtca tcacgctcta ttgtaatcac 1080

aggaacagat ccaaaagaag ccgcctgctc catagcgatt acatgaatat gactccacgc 1140

cgccttgcc ccacaaggaa aactaccag ccttacgcac cacctagaga ttcgctgcc 1200
tatcggagca ggggtgaagtt ttccagatct gcagatgcac cagcgtatca gcagggccag 1260
aaccaactgt ataacgagct caacctggga cgcagggaag agtatgacgt ttggacaag 1320
cgcagaggac gggaccctga gatgggtggc aaaccaagac gaaaaaacc ccaggagggt 1380
ctctataatg agctgcagaa ggataagatg gctgaagcct attctgaaat aggcataaaa 1440
ggagagcgga gaaggggaaa agggcacgac ggttgtacc agggactcag cactgctacg 1500
aaggatactt atgacgctct ccacatgcaa gccctgccac ctaggtaa 1548

<210> 34
<211> 515
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 34
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly
35 40 45

Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys
50 55 60

Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr
65 70 75 80

Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys
85 90 95

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

Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser

Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly
130 135 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile
145 150 155 160

Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg
165 170 175

Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn
180 185 190

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

Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly
210 215 220

Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp
225 230 235 240

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

Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Leu Ser Asn
260 265 270

Ser Ile Met Tyr Phe Ser His Phe Val Pro Val Phe Leu Pro Ala Lys
275 280 285

Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile
290 295 300

Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala
305 310 315 320

Gly Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr
325 330 335

Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu
340 345 350

Val Ile Thr Leu Tyr Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg
355 360 365

Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro
370 375 380

Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala
385 390 395 400

Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
405 410 415

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
420 425 430

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met
435 440 445

Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu
450 455 460

Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys
465 470 475 480

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
485 490 495

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
500 505 510

Pro Pro Arg
515

<210> 35
<211> 1482
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 35
caggtgcaat tgcaagagtc cggccccgga ctcgttaaac ccagtgagac gcttagcctg 60
acctgtaccg tctcaggggg cagcatctcc tcttattact ggagctggat caggcagcct 120
ccaggaaaag gccttgaatg gattgggtac atctactact ctggctcaac aaattataat 180
ccatccctga agtcccgctg gactatctct gtggacacca gcaagaatca gttttcactg 240
aagttgtcta gtgttaccgc ggccgacacc gccgtatact actgtgtgtc tcttgtgtac 300
tgtggcggcg actgctattc cgggttcgac tactggggcc aagggactct ggtaaccgtg 360
tcctcaggcg gcggcgggtc aggaggaggc ggagctggag gtggcggctc cgacatccag 420
ctgacacaat caccatcttc ctttcagct tcagtcgggg acagagtgtc cttcacatgc 480
caggccagcc aggatatcaa taacttctg aactggtacc aacagaaacc cggaaaggct 540
ccaaagctcc tgatctatga tgctccaac ctggagaccg gcgtgccctc caggttcagt 600
ggttcaggat caggcactga cttacgttc accatatcca gtcttcagcc cgaagacatt 660
gcaacctatt actgccaaca atacgggaac cttcccttta cattcgaggc cggcaccaag 720
gtggaaatca aaagggtgc agcattgagc aactcaataa tgtattttag tcactttgta 780
ccagtgttct tgccggctaa gcctactacc acaccgctc cacggccacc taccacagct 840
cctaccatcg cttcacagcc tctgtccctg cgcccagagg cttgccgacc ggccgcaggg 900
ggcgtgttc ataccagagg actggatttc gcctgcgata tctatatctg ggcaccctg 960
gccggaacct gcggcgact cctgtgttcc ctggatca cgctctattg taatcacagg 1020
aacagatcca aaagaagccg cctgtccat agcgattaca tgaatatgac tccacgccgc 1080
cctggcccca caaggaaaca ctaccagcct tacgcaccac ctagagattt cgctgcctat 1140
cggagcaggg tgaagtttc cagatctgca gatgcaccag cgtatcagca gggccagaac 1200
caactgtata acgagctcaa cctgggacgc aggggaagagt atgacgtttt ggacaagcgc 1260
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tataatgagc tgcagaagga taagatggct gaagcctatt ctgaaatagg catgaaagga 1380
gagcggagaa ggggaaaagg gcacgacggt ttgtaccagg gactcagcac tgctacgaag 1440
gatacttatg acgtctcca catgcaagcc ctgccaccta gg 1482

<210> 36
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 36
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

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

Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Leu Thr Gln Ser
130 135 140

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Ser Phe Thr Cys
145 150 155 160

Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln Gln Lys
165 170 175

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

Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
 195 200 205

Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr
 210 215 220

Cys Gln Gln Tyr Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly Thr Lys
 225 230 235 240

Val Glu Ile Lys Arg Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe
 245 250 255

Ser His Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro
 260 265 270

Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu
 275 280 285

Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His
 290 295 300

Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu
 305 310 315 320

Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr
 325 330 335

Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp
 340 345 350

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr
 355 360 365

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val
 370 375 380

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn
385 390 395 400

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val
405 410 415

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg
420 425 430

Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys
435 440 445

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg
450 455 460

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys
465 470 475 480

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
485 490

<210> 37
<211> 1440
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 37
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccggatatcc agctcacgca atccccctca agcttgagtg cctccgtggg cgaccgggtg 120

tccttcacat gtcaggcaag ccaagacata aataatttcc tgaattggta ccaacaaaaa 180

cccggcaagg ctcccaaact cctgatttat gatgcctcca atctggagac cgggggtcct 240

tctagattca gcggaagtgg cagcggcaca gactttacat ttactatctc ttctctgcaa 300

ccagaggaca tcgccacata ctattgccag caatacggca atctgccctt caccttcgga 360

ggcgggaacca aggtagaaat taaaaggggc ggtggaggct ccggaggggg gggctctggc 420

ggaggggggct cccaagtaca attgcaggag tcagggcctg gactcgtgaa gccttcagaa 480

actttgtcac tgacatgtac agtgtccggc ggaagcattt ccagttacta ttggtcctgg 540
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acaaactata atcccagcct caaatccagg gtcactatta gtgtggatac atcaaagaat 660
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gttttgaca agcgagagg acgggaccct gagatgggtg gcaaaccaag acgaaaaaac 1260
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ataggcatga aaggagagcg gagaagggga aaagggcacg acggtttgta ccagggactc 1380
agcactgcta cgaaggatac ttatgacgct ctccacatgc aagccctgcc acctaggtaa 1440

<210> 38
<211> 458
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 38
Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
20 25 30

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

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln
115 120 125

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

Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile
145 150 155 160

Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr
165 170 175

Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile
180 185 190

Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val
195 200 205

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys
210 215 220

Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu
225 230 235 240

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

Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe

260	265	270
Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val		
275	280	285
Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp		
290	295	300
Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met		
305	310	315 320
Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala		
325	330	335
Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg		
340	345	350
Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn		
355	360	365
Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg		
370	375	380
Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro		
385	390	395 400
Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala		
405	410	415
Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His		
420	425	430
Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp		
435	440	445
Ala Leu His Met Gln Ala Leu Pro Pro Arg		
450	455	

<210> 39
 <211> 1374
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 39

```
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ggcaaggctc ccaaactcct gatttatgat gcctccaatc tggagaccgg ggtcccttct    180
agattcagcg gaagtggcag cggcacagac ttacattta ctatctcttc tctgcaacca    240
gaggacatcg ccacatacta ttgccagcaa tacggcaatc tgcccttcac ctteggaggg    300
ggaaccaagg tagaaattaa aagggggcggg ggaggctccg gaggggggggg ctctggcgga    360
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ttgtcactga catgtacagt gtccggcgga agcatttcca gttactattg gtcctggatt    480
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aactataatc ccagcctcaa atccagggtc actattagtg tggatacatc aaagaatcag    600
ttctccttga agctgagctc agtcaactgct gccgacaccg cagtgtacta ttgtgtgagc    660
ctggtctact gcggcggaga ttgtacagc ggtttcgatt actggggcca gggcacctg    720
gttaccgtta gtccgcggc tgctcttgat aacgagaagt ccaacggtac gattatccac    780
gttaagggta agcacctttg ccctagcccc ctgttcccag gccccagtaa gcccttttgg    840
gtcctcgttg tggtaggtgg ggtactcgcc tgctactccc tgctcgtcac tgcgcattc    900
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actccacgcc gcctggccc cacaaggaaa cactaccagc cttacgcacc acctagagat   1020
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cagggccaga accaactgta taacgagctc aacctgggac gcagggaaga gtatgacgtt   1140
ttggacaagc gcagaggacg ggaccctgag atgggtggca aaccaagacg aaaaaacccc   1200
caggaggggtc tctataatga gctgcagaag gataagatgg ctgaagccta ttctgaaata   1260
ggcatgaaag gagagcggag aaggggaaaa gggcacgacg gtttgtacca gggactcagc   1320
actgctacga aggatactta tgacgctctc cacatgcaag ccctgccacc tagg         1374
```

<210> 40
<211> 458
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 40
Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
20 25 30

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

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln
115 120 125

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

Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile
145 150 155 160

Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr
165 170 175

Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile
180 185 190

Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val
195 200 205

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys
210 215 220

Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu
225 230 235 240

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

Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe
260 265 270

Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val
275 280 285

Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp
290 295 300

Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met
305 310 315 320

Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala
325 330 335

Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg
340 345 350

Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn
355 360 365

Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg
370 375 380

Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro
385 390 395 400

Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala
405 410 415

Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His
420 425 430

Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp
435 440 445

Ala Leu His Met Gln Ala Leu Pro Pro Arg
450 455

<210> 41
<211> 1467
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 41
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60
ccggatatcc agctgacca gtctccatcc tctttgagtg cctccgtggg tgaccgcgtc 120
tctttcactt gccaagccag ccaagacatc aacaactttc tgaattggta ccagcagaaa 180
ccaggcaaag caccaaagct cctcatctac gacgcctcca acctggaaac cggggtgccc 240
agcagggtta gcgggagcgg ttctggcacg gattttacgt tcaccatctc ctctctgcag 300
cccgaggata tagctactta ttactgtcag cagtacggga atctgccatt tacttttggg 360
ggtggaacta aggtggaaat caaaaggggc ggcgggggaa gcggggggcgg gggctcaggt 420
ggcggaggga gccagggtgca actccaggaa agtggcccag gattggtgaa gccagcgag 480
accctttccc ttactgtac tgtagcgga ggcagcataa gcagctacta ttggtcctgg 540
atcagacagc caccaggga agggcttgaa tggattggct acatttacta ttccgggtcc 600
accaactaca acccatcct caagtcccgc gtgacaattt ccgtcgacac aagcaagaac 660
cagttctccc tgaacttag tagcgtcact gctgcagata cagcagtgtg ctattgtgtc 720
agccttgtct actgtggcgg cgactgctac agtggctttg attactgggg acagggcacg 780

ctcgtgacag tgtccagcgc tgcggctatc gaggtaatgt atccgccacc gtatctggac 840
aacgagaagt ctaatgggac aatcattcac gtgaagggga agcacctgtg tccatcccc 900
ctgtttccgg gtcccagtaa acccttctgg gtgcttggtg tcgttggcgg ggtgctggcc 960
tgctattccc tgctggtgac cgtcgcgttt attattttct gggtagatc caaaagaagc 1020
cgctgctcc atagcgatta catgaatatg actccacgcc gccctggccc cacaaggaaa 1080
cactaccagc cttacgcacc acctagagat ttcgctgcct atcggagcag ggtgaagttt 1140
tccagatctg cagatgcacc agcgtatcag cagggccaga accaactgta taacgagctc 1200
aacctgggac gcaggggaaga gtatgacgtt ttggacaagc gcagaggacg ggaccctgag 1260
atgggtggca aaccaagacg aaaaaacccc caggaggggc tctataatga gctgcagaag 1320
gataagatgg ctgaagccta ttctgaaata ggcatgaaag gagagcggag aaggggaaaa 1380
gggcacgacg gttgtacca gggactcagc actgctacga aggatactta tgacgctctc 1440
cacatgcaag ccctgccacc taggtaa 1467

<210> 42
<211> 488
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 42
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu
20 25 30

Ser Ala Ser Val Gly Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln
35 40 45

Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala
50 55 60

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

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile
85 90 95

Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr
100 105 110

Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
115 120 125

Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
130 135 140

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
145 150 155 160

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr
165 170 175

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
180 185 190

Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
195 200 205

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
210 215 220

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

Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp
245 250 255

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ala Ala Ile Glu Val
260 265 270

Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile
275 280 285

Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 43

```
gatatccagc tgaccagtc tccatcctct ttgagtgcct ccgtgggtga ccgcgtctct    60
ttcacttgcc aagccagcca agacatcaac aactttctga attggtacca gcagaaacca    120
ggcaaagcac caaagctcct catctacgac gcctccaacc tggaaaccgg ggtgcccagc    180
aggtttagcg ggagcgggtc tggcacggat ttacgttca ccatctctc tctgcagccc    240
gaggatatag ctactatta ctgtcagcag tacgggaatc tgccatttac tttgggggt    300
ggaactaagg tggaaatcaa aaggggcggc gggggaagcg ggggcggggg ctcaggtggc    360
ggagggagcc aggtgcaact ccaggaaagt ggcccaggat tggatgaagc cagcgagacc    420
ctttccctta cttgtactgt tagcggaggc agcataagca gctactattg gtcctggatc    480
agacagccac cagggaagg gcttgaatgg attggctaca ttactattc cgggtccacc    540
aactacaacc catccctcaa gtcgccgtg acaatttccg tcgacacaag caagaaccag    600
tttccttga aacttagtag cgtcactgct gcagatacag cagtgtacta ttgtgtcagc    660
cttgtctact gtggcggcga ctgctacagt ggctttgatt actggggaca gggcacgctc    720
gtgacagtgt ccagcgtgc ggctatcgag gtaatgtatc cgccaccgta tctggacaac    780
gagaagtcta atgggacaat cattcacgtg aaggggaagc acctgtgtcc atccccctg    840
ttccgggtc ccagtaaacc cttctgggtg cttgtgtcg ttggcgggtg gctggcctgc    900
tattccctgc tggtgaccgt cgcgtttatt atttctggg ttagatcaa aagaagccgc    960
ctgctccata gcgattacat gaatatgact ccacgccgcc ctggccccac aaggaaacac   1020
taccagcctt acgcaccacc tagagatttc gctgcctatc ggagcagggt gaagttttcc   1080
agatctgcag atgcaccagc gtatcagcag ggccagaacc aactgtataa cgagctcaac   1140
ctgggacgca gggaagagta tgacgttttg gacaagcgca gaggacggga ccctgagatg   1200
ggtggcaaac caagacgaaa aaacccccag gagggctctc ataagagct gcagaaggat   1260
aagatggctg aagcctattc tgaaataggc atgaaaggag agcggagaag gggaaaaggg   1320
cacgacggtt tgtaccaggg actcagcact gctacgaagg atacttatga cgctctccac   1380
atgcaagccc tgccacctag g                                     1401
```

<210> 44

<211> 467

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 44

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

151015

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe

202530

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

354045

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

505560

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro

65707580

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe

859095

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly

100105110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln

115120125

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

130135140

Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile

145150155160

Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr

165170175

Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile
180 185 190

Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val
195 200 205

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys
210 215 220

Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu
225 230 235 240

Val Thr Val Ser Ser Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro
245 250 255

Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly
260 265 270

Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe
275 280 285

Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu
290 295 300

Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg
305 310 315 320

Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro
325 330 335

Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala
340 345 350

Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
355 360 365

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
370 375 380

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met
385 390 395 400

Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu
405 410 415

Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys
420 425 430

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
435 440 445

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
450 455 460

Pro Pro Arg
465

<210> 45
<211> 1548
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 45
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60
ccggacattc aattgaccca gtcccctagc agtctctcag caagtgtggg agatagggtg 120
tcattcacct gtcaggcttc acaggacatc aacaacttcc tcaattggta tcagcagaag 180
ccagggaagg caccaaagct gctcatatat gacgcttcaa accttgaaac cggagtacct 240
agccgcttca gcggaagcgg atcagggact gacttcactt ttaccatctc ttactgcag 300
cccgaagaca tcgccacata ctactgccag cagtacggaa acttgccttt tacatttggg 360
ggcggcacca aagtggagat taagcgaggg ggaggcggct caggaggcgg tggctccgga 420
ggcggggggtt cccagggtcca gctccaggaa tccggcccag gtctgggtaa gcccagtga 480
actttgtccc tcacgtgtac tgtgagcggg ggttcaatct cctcatacta ttggcttgg 540
atacggcaac ctcttggaag gggcctcgag tggatcggct atatctacta tagtggctcc 600

actaattaca acccttcct caagtccaga gtcaccattt ccgtggacac atctaagaac 660
cagttcagtc tgaagttgtc cagcgttaca gccgcagaca cagccgttta ttactgtgtg 720
tctcttggtt actgcggggg agactgttat agcggcttcg attactgggg ccagggcacc 780
ttggtcacag tctctccgc ggccgccctc tctaacagta ttatgtactt ttctatttt 840
gtacccgtgt tccttccgc taagccaact actaccccg gccacggcc gcctaccct 900
gcacccacaa tagccagtca gccttgagc ctgagacctg aggctgtcg gccggctgct 960
gggggtgcag tgcacacacg aggtctgat ttgcttgcg acatatacat ctgggccct 1020
ctggccggga cctgtggggt gctgcttctg agcttgggtca tcacgtctta ttgcaaccat 1080
cgcaacagat ccaaaagaag ccgcctgctc catagcgatt acatgaatat gactccacgc 1140
cgccctggcc ccacaaggaa aactaccag ccttacgcac cacctagaga ttcgctgcc 1200
tatcggagca ggggtgaagt ttccagatct gcagatgcac cagcgtatca gcagggccag 1260
aaccaactgt ataacgagct caacctggga cgaggggaag agtatgacgt ttggacaag 1320
cgagaggac gggaccctga gatgggtggc aaaccaagac gaaaaaacc ccaggagggt 1380
ctctataatg agctgcagaa ggataagatg gctgaagcct attctgaaat aggcataaaa 1440
ggagagcgga gaaggggaaa agggcacgac ggttgtacc agggactcag cactgctacg 1500
aaggatactt atgacgtct ccacatgcaa gccctgccac ctaggtaa 1548

<210> 46
<211> 515
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 46
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu
20 25 30

Ser Ala Ser Val Gly Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln
35 40 45

Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala
50 55 60

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

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile
85 90 95

Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr
100 105 110

Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
115 120 125

Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser
130 135 140

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
145 150 155 160

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr
165 170 175

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
180 185 190

Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
195 200 205

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
210 215 220

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

Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp
245 250 255

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ala Ala Leu Ser Asn

260	265	270			
Ser Ile Met Tyr Phe Ser His Phe Val Pro Val Phe Leu Pro Ala Lys					
275	280	285			
Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile					
290	295	300			
Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala					
305	310	315	320		
Gly Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr					
325	330	335			
Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu					
340	345	350			
Val Ile Thr Leu Tyr Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg					
355	360	365			
Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro					
370	375	380			
Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala					
385	390	395	400		
Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr					
405	410	415			
Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg					
420	425	430			
Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met					
435	440	445			
Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu					
450	455	460			
Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys					
465	470	475	480		

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
485 490 495

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
500 505 510

Pro Pro Arg
515

<210> 47
<211> 1482
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 47
gacattcaat tgaccagtc ccctagcagt ctctcagcaa gtgtgggaga tagggtgtca 60
ttcacctgtc aggcttcaca ggacatcaac aacttcctca attggtatca gcagaagcca 120
gggaaggcac caaagctgct catatatgac gcttcaaacc ttgaaaccgg agtacctagc 180
cgcttcagcg gaagcggatc agggactgac ttactttta ccactcttc actgcagccc 240
gaagacatcg ccacatacta ctgccagcag tacggaaact tgccttttac atttgggggc 300
ggcaccaaag tggagattaa gcgaggggga ggcggctcag gaggcggtgg ctccggaggc 360
gggggttccc aggtccagct ccaggaatcc ggcccaggtc tggtaagcc cagtgaaact 420
ttgtccctca cgtgtactgt gagcgggtgt tcaatctct cactactattg gtcttgata 480
cggcaacctc ctggaaaggg cctcgagtgg atcggctata tctactatag tggctccact 540
aattacaacc ctccctcaa gtccagagtc accatttccg tggacacatc taagaaccag 600
ttcagtctga agttgtccag cgttacagcc gcagacacag ccgtttatta ctgtgtgtct 660
cttgtttact gcggggggaga ctgttatagc ggcttcgatt actggggcca gggcaccttg 720
gtcacagtct ctccgcggc cgccctctt aacagtatta tgtacttttc tcattttgta 780
cccgtgttcc ttcccgctaa gccaactact accccggccc cacggccgcc taccctgca 840
cccacaatag ccagtcagcc ttgagcctg agacctgagg ctgtcggcc ggctgctggg 900
ggtgcagtgc acacacgagg tcttgatttt gcttgcgaca tatacatctg ggcccctctg 960

gccgggacct gtggggtgct gcttctgagc ttggatcatca cgctctattg caaccatcgc 1020
aacagatcca aaagaagccg cctgctccat agcgattaca tgaatatgac tccacgccgc 1080
cctggcccca caaggaaaca ctaccagcct tacgcaccac ctagagattt cgctgcctat 1140
cggagcaggg tgaagtttc cagatctgca gatgcaccag cgtatcagca gggccagaac 1200
caactgtata acgagctcaa cctgggacgc agggaagagt atgacgtttt ggacaagcgc 1260
agaggacggg accctgagat ggggtggcaaa ccaagacgaa aaaaccccca ggagggtctc 1320
tataatgagc tgcagaagga taagatggct gaagcctatt ctgaaatagg catgaaagga 1380
gagcggagaa ggggaaaagg gcacgacggg ttgtaccagg gactcagcac tgctacgaag 1440
gatacttatg acgctctcca catgcaagcc ctgccaccta gg 1482

<210> 48
<211> 494
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 48
Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
20 25 30

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

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Gln
115 120 125

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

Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Tyr Tyr Trp Ser Trp Ile
145 150 155 160

Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr
165 170 175

Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile
180 185 190

Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser Ser Val
195 200 205

Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val Ser Leu Val Tyr Cys
210 215 220

Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu
225 230 235 240

Val Thr Val Ser Ser Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe
245 250 255

Ser His Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro
260 265 270

Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu
275 280 285

Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His
290 295 300

Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu
305 310 315 320

Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr
325 330 335

Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp
340 345 350

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr
355 360 365

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val
370 375 380

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn
385 390 395 400

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val
405 410 415

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg
420 425 430

Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys
435 440 445

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg
450 455 460

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys
465 470 475 480

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
485 490

<210> 49
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 49
caggtacagc tgcaggaatc tgggcccgga cttgtcaagc caagtcagac actttctctt 60

acatgtaccg tgagcggcgg aagtataagc agtggaggct ttactggtc ttggatacgg 120

cagcaccag gcaaaggctt ggagtggatt ggatacattc atcattcagg atctacacac 180

tataatccat cccttaagtc ccgggtcacc attagcattg atacgtctaa gaatctgttc 240

agtctcaggc tgtcctccgt cactgctgcc gacacagccg tgtactactg cgcctccttg 300

gtttactgcg gaggcgactg ttatagcggc ttgattatt ggggggcaggg gaccctcgta 360

accgtgagct ct 372

<210> 50
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 50
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
20 25 30

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

Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr His Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr Ser Lys Asn Leu Phe
65 70 75 80

Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 51

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 51

Gly Gly Ser Ile Ser Ser Gly Gly Phe
1 5

<210> 52

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 52

His His Ser Gly Ser
1 5

<210> 53

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 53

Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp Tyr
1 5 10

<210> 54

<211> 324

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

polynucleotide

<400> 54

gatatccagc tcaactcaaag cccctctagt ctctctgcct cagtggggga tcgggtcagt 60
tttactgtc aagcttcaca ggatatcaac aacttcctta attggtatca gcagaagcca 120
ggaaaagcac ccaagctgct catctatgat gcctcaaatt tggagacggg tgttcccagt 180
cgattctctg ggtcaggggc cgggaccgac ttacgttta cgatctctc tctgcagccc 240
gaagacatcg ccacatacta ttgtcaacag tacggcaact tgcctttcac attggggggc 300
gggactaagg ttgaaatcaa gagg 324

<210> 55

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 55

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
20 25 30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 56
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 56
Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn
1 5 10

<210> 57
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 57
Asp Ala Ser Asn Leu Glu Thr
1 5

<210> 58
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 58
Gln Gln Tyr Gly Asn Leu Pro Phe Thr
1 5

<210> 59
<211> 1446
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 59
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

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ccgcagggtac agctgcagga atctggggccc ggacttgtca agccaagtca gacactttct    120
cttacatgta ccgtgagcgg cggaagtata agcagtggag gcttttactg gtcttgata    180
cggcagcacc caggcaaagg ctggagtggt attggataca ttcatcattc aggatctaca    240
cactataatc catcccttaa gtccccgggtc accattagca ttgatacgtc taagaatctg    300
ttcagtctca ggctgtctc cgctactgct gccgacacag ccgtgtacta ctgcgcctcc    360
ttggtttact gcggaggcga ctgttatagc ggctttgatt attggggggca ggggaccctc    420
gtaaccgtga gctctggagg ggggtgggagc gggggaggag gttcaggggg gggcggctcc    480
gatatccagc tactcaaag cccctctagt ctctctgcct cagtggggga tcgggtcagt    540
tttactgtc aagcttaca ggatatcaac aattcctta attggtatca gcagaagcca    600
ggaaaagcac ccaagctgct catctatgat gcctcaaatt tggagacggg tgttcccagt    660
cgattctctg ggtcagggtc cgggaccgac ttacgttta cgatctctc tctgcagccc    720
gaagacatcg ccacatacta ttgtcaacag tacggcaact tgcctttcac atttgggggc    780
gggactaagg ttgaaatcaa gagggccgct gcactggaca atgagaagtc caacggcacc    840
atcatccacg tgaagggcaa gcacctgtgc ctagtcctc tgttcccagg cccatccaaa    900
cctttttggg ttcttgtgt ggtcgggggg gtgctggcct gctattctct gctggtcacg    960
gtggccttca taattttctg ggtagatcc aaaagaagcc gcctgtcca tagcgattac   1020
atgaatatga ctccacgccg ccctggcccc acaaggaaac actaccagcc ttacgcacca   1080
cctagagatt tcgtgccta tcggagcagg gtgaagttt ccagatctgc agatgcacca   1140
gcgtatcagc agggccagaa ccaactgtat aacgagctca acctgggacg cagggaagag   1200
tatgacgttt tggacaagcg cagaggacgg gaccctgaga tgggtggcaa accaagacga   1260
aaaaaccccc aggaggggtct ctataatgag ctgcagaagg ataagatggc tgaagcctat   1320
tctgaaatag gcatgaaagg agagcggaga aggggaaaag ggcacgacgg tttgtaccag   1380
ggactcagca ctgctacgaa ggatacttat gacgctctcc acatgcaagc cctgccacct   1440
aggtaa

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1446

<210> 60

<211> 481

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 60

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly
35 40 45

Ser Ile Ser Ser Gly Gly Phe Tyr Trp Ser Trp Ile Arg Gln His Pro
50 55 60

Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr
65 70 75 80

His Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr
85 90 95

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

Thr Ala Val Tyr Tyr Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys
115 120 125

Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
130 135 140

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145 150 155 160

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

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
180 185 190

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

195 200 205

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
210 215 220

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
225 230 235 240

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
245 250 255

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Leu
260 265 270

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

Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val
290 295 300

Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr
305 310 315 320

Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu
325 330 335

His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg
340 345 350

Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg
355 360 365

Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln
370 375 380

Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu
385 390 395 400

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

Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln
420 425 430

Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu
435 440 445

Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr
450 455 460

Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro
465 470 475 480

Arg

<210> 61
<211> 1380
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 61
caggtagcagc tgcaggaatc tgggcccgga cttgtcaagc caagtcagac actttctctt 60

acatgtaccg tgagcggcgg aagtataagc agtggaggct ttactggtc ttggatacgg 120

cagcaccag gcaaaggctt ggagtggatt ggatacattc atcattcagg atctacacac 180

tataatccat cccttaagtc ccgggtcacc attagcattg atacgtctaa gaatctgttc 240

agtctcaggc tgtctccgt cactgctgcc gacacagccg tgtactactg cgctccttg 300

gtttactgcg gaggcgactg ttatagcggc ttgattatt gggggcaggg gaccctcgta 360

accgtgagct ctggagggggg tgggagcggg ggaggagggt caggggggggg cggtccgat 420

atccagctca ctcaaagccc ctctagtctc tctgcctcag tgggggatcg ggtagtttt 480

acttgtcaag cttcacagga tatcaacaac ttccttaatt ggtatcagca gaagccagga 540

aaagcaccca agctgctcat ctatgatgcc tcaaatttgg agacgggtgt tcccagtcga 600

ttctctgggt cagggtccgg gaccgacttt acgtttacga tctcctctct gcagcccgaa 660

gacatcgcca catactattg tcaacagtac ggcaacttgc ctttcacatt tgggggcggg 720

actaaggttg aaatcaagag ggccgctgca ctggacaatg agaagtccaa cggcaccatc 780
atccacgtga agggcaagca cctgtgccct agtcctctgt tcccaggccc atccaaacct 840
ttttgggttc ttgttggtt cgggggggtg ctggcctgct attctctgct ggtcacggtg 900
gccttcataa tttctgggt tagatccaaa agaagccgcc tgctccatag cgattacatg 960
aatatgactc cagccgccc tggccccaca aggaacact accagcctta cgcaccacct 1020
agagatttcg ctgcctatcg gagcaggggtg aagttttcca gatctgcaga tgcaccagcg 1080
tatcagcagg gccagaacca actgtataac gagctcaacc tgggacgcag ggaagagtat 1140
gacgttttgg acaagcgag aggacgggac cctgagatgg gtggcaaacc aagacgaaaa 1200
aacccccagg aggggtctta taatgagctg cagaaggata agatggctga agcctattct 1260
gaaataggca tgaaggaga gcggagaagg ggaaaagggc acgacggtt gtaccaggga 1320
ctcagactg ctacgaagga tacttatgac gctctccaca tgcaagcct gccacctagg 1380

<210> 62
<211> 460
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 62
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
20 25 30

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

Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr His Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr Ser Lys Asn Leu Phe
65 70 75 80

Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Leu Thr
130 135 140

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Ser Phe
145 150 155 160

Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln
165 170 175

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asn
180 185 190

Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
195 200 205

Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr
210 215 220

Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly
225 230 235 240

Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Leu Asp Asn Glu Lys Ser
245 250 255

Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro
260 265 270

Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly
275 280 285

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

Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met
305 310 315 320

Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro
325 330 335

Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe
340 345 350

Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu
355 360 365

Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp
370 375 380

Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys
385 390 395 400

Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala
405 410 415

Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys
420 425 430

Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr
435 440 445

Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
450 455 460

<210> 63
<211> 1473
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 63
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

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ccgcaggtgc agctgcagga aagcgggtccg ggacttgtca agccgtccca aacgctgagt    120
ctgacgtgta ctgtctctgg tggctctatt tcttccgggg gcttttattg gtcttggatc    180
agacaacacc ctggcaaagg gctggagtggt ataggggtata ttcaccactc tgggtccact    240
cactacaacc catcattgaa atccagagtg actatctcaa tcgacacatc caagaacctt    300
ttcagcctga gggtgtcatc agttaccgcc gctgacaccg cgggtgtatta ttgcgcctct    360
ctcgtgtact gcggtggcga ttgttatagt ggctttgact actggggggca ggggacattg    420
gttaccgttt caagtggagg cgggtgggtct ggcggggggcg gtagcggagg tgggggggagc    480
gacatacagc ttacgcagag cccctccagc ctttcagcct ccgtggggga tagggtgtcc    540
tttacctgcc aggcttccca ggacataaac aacttcctca attggtatca gcaaaagccc    600
gggaaagcac caaagctgct catctacgat gccagcaacc tggaaaccgg agtgccgtct    660
cgcttctctg gaagtggcag tgggaccgat ttactttta caatctcaag tttgcagcca    720
gaagacattg caacatacta ctgtcaacag tacggcaatc tcccctttac atttgggggg    780
ggaactaaag tggagattaa gcgcgctgca gccattgaag ttatgtatcc gccccgtat    840
ctggataacg agaaatctaa tgggtaccata atacatgtga aggggaagca cctctgtcca    900
tcaccgctgt tccccggccc ttcaaaacct ttctgggtac tcgttgcgt gggtggagtt    960
ctggcctgct atagtctgct ggtgaccgtg gcgtttatca tcttctgggt aagatccaaa   1020
agaagccgcc tgctccatag cgattacatg aatatgactc cacgccgcc tggccccaca   1080
aggaaacact accagcctta cgcaccacct agagatttcg ctgcctatcg gagcagggtg   1140
aagttttcca gatctgcaga tgcaccagcg tatcagcagg gccagaacca actgtataac   1200
gagctcaacc tgggacgcag ggaagagtat gacgttttgg acaagcgag aggacgggac   1260
cctgagatgg gtggcaaacc aagacgaaaa aacccccagg agggctctta taatgagctg   1320
cagaaggata agatggctga agcctattct gaaataggca tgaaaggaga gcggagaagg   1380
ggaaaagggc acgacggttt gtaccaggga ctcagcactg ctacgaagga tacttatgac   1440
gctctccaca tgcaagccct gccacctagg taa                                1473

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<210> 64

<211> 490

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 64

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly
35 40 45

Ser Ile Ser Ser Gly Gly Phe Tyr Trp Ser Trp Ile Arg Gln His Pro
50 55 60

Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr
65 70 75 80

His Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr
85 90 95

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

Thr Ala Val Tyr Tyr Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys
115 120 125

Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
130 135 140

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145 150 155 160

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

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
180 185 190

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

195 200 205

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
210 215 220

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
225 230 235 240

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
245 250 255

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Ile
260 265 270

Glu Val Met Tyr Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly
275 280 285

Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe
290 295 300

Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Gly Gly Val
305 310 315 320

Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp
325 330 335

Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met
340 345 350

Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala
355 360 365

Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg
370 375 380

Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn
385 390 395 400

Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg
405 410 415

Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro
420 425 430

Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala
435 440 445

Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His
450 455 460

Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp
465 470 475 480

Ala Leu His Met Gln Ala Leu Pro Pro Arg
485 490

<210> 65
<211> 1407
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 65
caggtgcagc tgcaggaaag cgggtccggga ctgtcaagc cgtcccaaac gctgagtctg 60

acgtgtactg tctctggtgg ctctatttct tccgggggct ttattgggtc ttggatcaga 120

caacaccctg gcaaagggct ggagtggata ggggtatattc accactctgg gtccactcac 180

tacaacccat cattgaaatc cagagtgact atctcaatcg acacatccaa gaaccttttc 240

agcctgaggt tgtcatcagt taccgccgct gacaccgcgg tgtattattg cgcctctctc 300

gtgtactgcg gtggcgattg ttatagtggc ttgactact ggggggcaggg gacattgggt 360

accgtttcaa gtggaggcgg tgggtctggc ggggggcggta gcggagggtgg ggggagcgac 420

atacagctta cgcagagccc ctccagcctt tcagcctccg tgggggatag ggtgtccttt 480

acctgccagg ctcccgagga cataaacaac ttctcaatt ggtatcagca aaagcccggg 540

aaagcaccaa agctgctcat ctacgatgcc agcaacctgg aaaccggagt gccgtctcgc 600

ttctctggaa gtggcagtgg gaccgatttc acttttaca tctcaagttt gcagccagaa 660

gacattgcaa catactactg tcaacagtac ggcaatctcc cctttacatt tggggggggga 720

actaaagtgg agattaagcg cgctgcagcc attgaagtta tgtatccgcc cccgtatctg 780
gataacgaga aatctaattgg taccataata catgtgaagg ggaagcacct ctgtccatca 840
ccgctgttcc ccggcccttc aaaacctttc tgggtactcg ttgtcgtggg tggagttctg 900
gcctgctata gtctgctggg gaccgtggcg ttatcatct tctgggtaag atccaaaaga 960
agccgcctgc tccatagcga ttacatgaat atgactccac gccgccctgg ccccaacaagg 1020
aaacactacc agccttacgc accacctaga gatttcgctg cctatcggag cagggtgaag 1080
ttttccagat ctgcagatgc accagcgtat cagcagggcc agaaccaact gtataacgag 1140
ctcaacctgg gacgcaggga agagtatgac gttttggaca agcgagagg acgggaccct 1200
gagatgggtg gcaaaccaag acgaaaaaac cccagaggagg gtctctataa tgagctgcag 1260
aaggataaga tggctgaagc ctattctgaa ataggcatga aaggagagcg gagaagggga 1320
aaagggcacg acggtttgta ccagggactc agcactgcta cgaaggatac ttatgacgct 1380
ctccacatgc aagccctgcc acctagg 1407

<210> 66
<211> 469
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 66
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
20 25 30

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

Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr His Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr Ser Lys Asn Leu Phe
65 70 75 80

Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Leu Thr
130 135 140

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Ser Phe
145 150 155 160

Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln
165 170 175

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asn
180 185 190

Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
195 200 205

Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr
210 215 220

Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly
225 230 235 240

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

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

Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys
275 280 285

Pro Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser
290 295 300

Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg
305 310 315 320

Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro
325 330 335

Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe
340 345 350

Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro
355 360 365

Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly
370 375 380

Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro
385 390 395 400

Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr
405 410 415

Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly
420 425 430

Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln
435 440 445

Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln
450 455 460

Ala Leu Pro Pro Arg
465

<210> 67
<211> 1554
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 67

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ccgcaggtgc agttgcagga aagcgggcct ggccttga aaccaagcca gacactgagc   120
ctgacatgca ctgtgtccgg cgggtccata tctccgggg gttttattg gtcctggata   180
cgccagcatc ccgggaaagg acttgaatgg attggatata tccaccattc cggaagcacc   240
cactacaatc caagccttaa atcccgggtg acaatctcca tcgacacctc aaagaatctt   300
tttccctgc gggtgtcttc agtaactgcc gccgataccg ctgtgtacta ctgtgccagc   360
ctcgtctatt gcggcggaga ttgtattct ggggtcgatt attggggta aggcacactg   420
gtaactgtca gcagcggagg cggcgggtcc gggggcgggg gcagtggagg gggcggatct   480
gacattcagc ttacgcagtc cccatcttca ctagcgcca gcgttggcga tcgggtcagc   540
ttcacgtgtc aagcaagtca ggatatcaac aactttcta actggtacca gcagaagcca   600
ggcaaggcac ccaagttgct gatttacgat gcttctaacc tcgagacggg agtgcctagc   660
cgcttctccg ggagcggcag cggcacagac ttacctta cgattccag tctgcagcca   720
gaggatatag caactatta ctgtcagcag tatggcaacc tccctttac ctgcgtggt   780
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actccagccc ccaccatgc ctcccagccc ctacgcctga ggccagaggc ttgtcgccct   960
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ccacgccgcc ctggccccac aaggaaacac taccagcctt acgcaccacc tagagatttc  1200
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atgaaaggag agcggagaag gggaaaaggg cacgacggtt tgtaccaggg actcagcact  1500
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gctacgaagg atacttatga cgctctccac atgcaagccc tgccacctag gtaa 1554

<210> 68
<211> 517
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 68
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly
35 40 45

Ser Ile Ser Ser Gly Gly Phe Tyr Trp Ser Trp Ile Arg Gln His Pro
50 55 60

Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr
65 70 75 80

His Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr
85 90 95

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

Thr Ala Val Tyr Tyr Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys
115 120 125

Tyr Ser Gly Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser
130 135 140

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145 150 155 160

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

165

170

175

Asp Arg Val Ser Phe Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe
180 185 190

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

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
210 215 220

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
225 230 235 240

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe
245 250 255

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Leu
260 265 270

Ser Asn Ser Ile Met Tyr Phe Ser His Phe Val Pro Val Phe Leu Pro
275 280 285

Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro
290 295 300

Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro
305 310 315 320

Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp
325 330 335

Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu
340 345 350

Ser Leu Val Ile Thr Leu Tyr Cys Asn His Arg Asn Arg Ser Lys Arg
355 360 365

Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro
370 375 380

Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe
385 390 395 400

Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro
405 410 415

Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly
420 425 430

Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro
435 440 445

Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr
450 455 460

Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly
465 470 475 480

Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln
485 490 495

Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln
500 505 510

Ala Leu Pro Pro Arg
515

<210> 69
<211> 1488
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 69
caggtgcagt tgcaggaaag cgggcctggc cttgtgaaac caagccagac actgagcctg 60

acatgcactg tgtccggcgg gtccatatct tccgggggtt ttattggtc ctggatacgc 120

cagcatcccg ggaaaggact tgaatggatt ggatatatcc accattccgg aagcaccac 180

tacaatccaa gccttaaadc cggggtgaca atctccatcg acacctcaaa gaatctttt 240

tccctgcggt tgtcttcagt aactgccgcc gataccgctg tgtactactg tgccagcctc 300
gtctattgcg gcggagattg ttattctggg ttcgattatt ggggtcaagg cacactggta 360
actgtcagca gcggaggcgg cgggtccggg ggcgggggca gtggaggggg cggatctgac 420
attcagctta cgcagtcccc atcttcactt agcgccagcg ttggcgatcg ggtcagcttc 480
acgtgtcaag caagtcagga tatcaacaac ttcttaact ggtaccagca gaagccaggc 540
aaggcaccca agttgctgat ttacgatgct tctaacctcg agacgggagt gcctagccgc 600
ttctccggga gcggcagcgg cacagacttt acctttacga ttccagtct gcagccagag 660
gatatagcaa cttattactg tcagcagtat ggcaacctcc cttttacctt cggtggtggc 720
acaaaggctc agattaaaag agccgcagcg ttgtccaact ccataatgta ttttctcat 780
tttgtccccg tctttctgcc tgccaaacct accaccaccc ccgccccacg accacctact 840
ccagccccca ccacgcctc ccagcccctc agcctgaggc cagaggcttg tcgccctgct 900
gcggggggcg ctgtccatac cagaggactc gacttcgcct gcgatattta tatatgggcc 960
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cgccgccttg gccccacaag gaaacactac cagccttacg caccacctag agatttcgct 1140
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cagaaccaac tgtataacga gctcaacctg ggacgcaggg aagagtatga cgttttgac 1260
aagcgcagag gacgggaccc tgagatgggt ggcaaacca gacgaaaaa cccccaggag 1320
ggctctata atgagctgca gaaggataag atggctgaag cctattctga aataggcatg 1380
aaaggagagc ggagaagggg aaaagggcac gacggttgt accagggact cagcactgct 1440
acgaaggata cttatgacgc tctccacatg caagccctgc cacctagg 1488

<210> 70
<211> 496
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 70

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
20 25 30

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

Trp Ile Gly Tyr Ile His His Ser Gly Ser Thr His Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Val Thr Ile Ser Ile Asp Thr Ser Lys Asn Leu Phe
65 70 75 80

Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Ser Leu Val Tyr Cys Gly Gly Asp Cys Tyr Ser Gly Phe Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Leu Thr
130 135 140

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Ser Phe
145 150 155 160

Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Phe Leu Asn Trp Tyr Gln
165 170 175

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asn
180 185 190

Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
195 200 205

Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr
210 215 220

Tyr Tyr Cys Gln Gln Tyr Gly Asn Leu Pro Phe Thr Phe Gly Gly Gly
225 230 235 240

Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Leu Ser Asn Ser Ile Met
 245 250 255

Tyr Phe Ser His Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr
 260 265 270

Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln
 275 280 285

Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala
 290 295 300

Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala
305 310 315 320

Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr
 325 330 335

Leu Tyr Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu Leu His
 340 345 350

Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys
 355 360 365

His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser
 370 375 380

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

Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr
 405 410 415

Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys
 420 425 430

Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys
435 440 445

Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg
450 455 460

Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala
465 470 475 480

Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
485 490 495

<210> 71
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 71
caggtccaac tgggtgcagtc cggagccgaa gtcaagaaac caggtgcctc cgtaaagtg 60
agttgcaaag tctctggata cactctgacc gagctctcta tgcactgggt ccggcaggcc 120
cccggcaagg gattggaatg gatgggcggg ttcgatcctg aggacggaga gactatctac 180
gctcaaaaat tccagggacg agtgactgtg accgaagaca ctagtaccga cactgcctac 240
atggaacttt cctctctgcg atcagaagat accgcagtgt actactgtgc tactgaatct 300
aggggcattg gatggcccta ctgcgattac tggggtcagg gaactctggt gactgtctcc 360
agc 363

<210> 72
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 72
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

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

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 73
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 73
Gly Tyr Thr Leu Thr Glu Leu
1 5

<210> 74
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 74
Asp Pro Glu Asp Gly Glu

1 5

<210> 75
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 75
Glu Ser Arg Gly Ile Gly Trp Pro Tyr Phe Asp Tyr
1 5 10

<210> 76
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 76
gatattcaga tgactcaatc tccttcttct ctgtccgctt ccgtgggcga tagagtgacc 60
attacttgta gggcgtccca gtcaatctcc agttattga attggtatca gcagaagccc 120
gggaaagcac ctaagctgtt gatcagcggg gcttctagcc tgaagagtgg ggtaccttca 180
cggttcagcg gaagcggaag cggaaccgat ttcaccctga ctatcagcag cctgccacct 240
gaggacttg caacttacta ctgccaacag tcatacagca ctccgatcac ttccggccag 300
ggcacccggc tcgaaatcaa gcgc 324

<210> 77
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 77
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr
20 25 30

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

Ser Gly Ala Ser Ser Leu Lys Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Pro Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg
100 105

<210> 78
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 78
Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn
1 5 10

<210> 79
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 79
Gly Ala Ser Ser Leu Lys Ser
1 5

<210> 80
<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 80
Gln Gln Ser Tyr Ser Thr Pro Ile Thr
1 5

<210> 81
<211> 1437
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 81
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcagggtcc aactgggtga gtccggagcc gaagtcaaga aaccagggtgc ctccgttaa 120

gtgagttgca aagtctctgg atacactctg accgagctct ctatgcactg ggtccggcag 180

gcccccgga agggattgga atggatgggc gggttcgatc ctgaggacgg agagactatc 240

tacgtctaaa aattccaggg acgagtgact gtgaccgaag acactagtac cgacactgcc 300

tacatggaac ttctctctt gcgatcagaa gataccgcag tgtactactg tgctactgaa 360

tctaggggca ttggatggcc ctacttcgat tactggggtc aggggaactct ggtgactgtc 420

tccagcggtg gaggtggcag cgggtggggc ggaagcgggg ggggcggctc tgatattcag 480

atgactcaat ctcttcttc tctgtccgct tccgtgggcg atagagtga cactacttgt 540

agggcgtccc agtcaatctc cagttatttg aattgggtatc agcagaagcc cgggaaagca 600

cctaagctgt tgatcagcgg ggcttctagc ctgaagagtg gggtagcttc acggttcagc 660

ggaagcggaa gcggaaccga ttaccctg actatcagca gcctgccacc tgaggacttt 720

gcaacttact actgccaaca gtcatacagc actccgatca ctttcggcca gggcacccgg 780

ctcgaaatca agcgcgctgc tgctttggac aatgagaagt caaacggcac catcatacat 840

gttaaaggta aacatctgtg tccctccccg ctgttccccg gcccttccaa accgttctgg 900

gttctgggtg tggtcggagg cgtactcgct tgctatagtc tgctggtaac tgctgccttc 960

atcatctttt ggggtgagatc caaaagaagc cgcctgctcc atagcgatta catgaatatg 1020

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ttcgtgcct atcgagcag ggtgaagttt tccagatctg cagatgcacc agcgtatcag 1140

cagggccaga accaactgta taacgagctc aacctgggac gcagggaaga gtatgacgtt 1200

ttggacaagc gcagaggacg ggaccctgag atgggtggca aaccaagacg aaaaaacccc 1260

caggagggtc tctataatga gctgcagaag gataagatgg ctgaagccta ttctgaaata 1320

ggcatgaaag gagagcggag aaggggaaaa gggcacgacg gtttgtacca gggactcagc 1380

actgctacga aggatactta tgacgtctc cacatgcaag ccctgccacc taggtaa 1437

<210> 82

<211> 478

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 82

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu

1 5 10 15

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

20 25 30

Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr

35 40 45

Thr Leu Thr Glu Leu Ser Met His Trp Val Arg Gln Ala Pro Gly Lys

50 55 60

Gly Leu Glu Trp Met Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile

65 70 75 80

Tyr Ala Gln Lys Phe Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser

85 90 95

Thr Asp Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr

100 105 110

Ala Val Tyr Tyr Cys Ala Thr Glu Ser Arg Gly Ile Gly Trp Pro Tyr
115 120 125

Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
145 150 155 160

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

Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp
180 185 190

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Ser Gly Ala
195 200 205

Ser Ser Leu Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
210 215 220

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Pro Pro Glu Asp Phe
225 230 235 240

Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Ile Thr Phe Gly
245 250 255

Gln Gly Thr Arg Leu Glu Ile Lys Arg Ala Ala Ala Leu Asp Asn Glu
260 265 270

Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro
275 280 285

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

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

Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp

325 330 335

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr
340 345 350

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val
355 360 365

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn
370 375 380

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val
385 390 395 400

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg
405 410 415

Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys
420 425 430

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg
435 440 445

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys
450 455 460

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
465 470 475

<210> 83

<211> 1371

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 83

cagggtccaac tgggtgcagtc cggagccgaa gtcaagaaac cagggtgcctc cgtaaagtg 60

agttgcaaag tctctggata cactctgacc gagctctcta tgcactgggt ccggcaggcc 120

cccggaagg gattggaatg gatgggcggg ttcgatcctg aggacggaga gactatctac 180

gctcaaaaat tccagggacg agtgactgtg accgaagaca ctagtaccga cactgcctac 240
atggaacttt cctctctgcg atcagaagat accgcagtgt actactgtgc tactgaatct 300
aggggcattg gatggcccta cttegattac tggggtcagg gaactctggt gactgtctcc 360
agcgggtggag gtggcagcgg tgggtggcgga agcggggggg gcggctctga tattcagatg 420
actcaatctc ctctctctct gtccgcttcc gtgggcgata gagtgacat tactttagg 480
gcgtcccagt caatctccag ttatttgaat tggatcagc agaagcccgg gaaagcacct 540
aagctgttga tcagcggggc tttagcctg aagagtgggg taccttcacg gttcagcggga 600
agcgggaagcg gaaccgattt caccctgact atcagcagcc tgccacctga ggactttgca 660
acttactact gccaacagtc atacagcact ccgatcactt tcggccaggg caccggctc 720
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ctggtggtgg tcggaggcgt actcgcttg ctagtctgc tggtaactgt cgccttcac 900
atcttttggg tgagatcaa aagaagccgc ctgctccata gcgattacat gaatatgact 960
ccacgccgcc ctggccccac aaggaaacac taccagcctt acgcaccacc tagagatttc 1020
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gacaagcgca gaggacggga ccctgagatg ggtggcaaac caagacgaaa aaacccccag 1200
gagggtctct ataatgagct gcagaaggat aagatggctg aagcctattc tgaaataggc 1260
atgaaaggag agcggagaag gggaaaaggg cacgacggtt tgtaccaggg actcagcact 1320
gctacgaagg atacttatga cgctctccac atgcaagccc tgccacctag g 1371

<210> 84
<211> 457
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 84
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
 20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
 130 135 140

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

Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro
 165 170 175

Gly Lys Ala Pro Lys Leu Leu Ile Ser Gly Ala Ser Ser Leu Lys Ser
 180 185 190

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 195 200 205

Leu Thr Ile Ser Ser Leu Pro Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 210 215 220

Gln Gln Ser Tyr Ser Thr Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu
225 230 235 240

Glu Ile Lys Arg Ala Ala Ala Leu Asp Asn Glu Lys Ser Asn Gly Thr
245 250 255

Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro
260 265 270

Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val Leu
275 280 285

Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val
290 295 300

Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr
305 310 315 320

Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro
325 330 335

Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser
340 345 350

Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu
355 360 365

Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg
370 375 380

Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln
385 390 395 400

Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr
405 410 415

Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp
420 425 430

Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala
435 440 445

Leu His Met Gln Ala Leu Pro Pro Arg
450 455

<210> 85
<211> 1464
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 85
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcaggtgc agcttgtgca gagcggggcc gaggtgaaga agcccggggc cagcgtcaaa 120

gtgtcctgta aggtcagcgg ttacaccctc accgagctga gcatgcactg ggtacggcag 180

gctcccgga aaggtcttga gtggatgggt ggatttgatc cagaagatgg agagactatc 240

tacgcccaga agttccaggg ccgggtcacc gtaacagaag acacctcaac tgacaccgct 300

tacatggagc tgagttcact gcggtccgag gacacggccg tgtattattg tgccaccgag 360

agccgcggaa tcggatggcc ttacttcgac tactggggac aggggtacact tgttacagta 420

tcatccgggg gtggcggctc tgggtggggc ggctccggag ggggtggatc agatatccaa 480

atgactcaaa gtccaagttc cctgtctgcc tcagtcggag atagagtcac cataacctgc 540

agggcaagtc agtccatctc ctctatctg aactggtacc aacagaaacc tggaaaggcg 600

cctaagctcc tgatctccgg agcctcatct ttgaaatccg gtgtcccatc tcgcttcagt 660

ggctctggaa gcggtacaga ttttactttg accattagca gcctcccacc ggaagacttt 720

gctacatatt actgccagca gtcttactca accccaatca ccttcgggca aggcaccaga 780

ctcgaaataa aaagagcagc tgctatcgag gttatgtacc caccgccgta cttggataac 840

gaaaaaagca atgggaccat cattcatgtg aagggtgaagc acctttgccc tagcccactg 900

tttctggcc cgagtaaacc cttttgggta cttgtggtcg tcggcggcgt gctggcctgc 960

tactcactcc tggttaccgt cgattcatc atcttttggg tgagatcaa aagaagccgc 1020

ctgctccata gcgattacat gaatatgact ccacgccgcc ctggccccac aaggaaacac 1080

taccagcctt acgcaccacc tagagatttc gctgcctatc ggagcagggt gaagttttcc 1140

agatctgcag atgcaccagc gtatcagcag ggccagaacc aactgtataa cgagctcaac 1200
ctgggacgca gggaagagta tgacgttttg gacaagcgca gaggacggga ccctgagatg 1260
ggtggcaaac caagacgaaa aaacccccag gaggggtctct ataatgagct gcagaaggat 1320
aagatggctg aagcctattc tgaaataggc atgaaaggag agcggagaag gggaaaaggg 1380
cacgacgggt tgtaccaggg actcagcact gctacgaagg atacttatga cgctctccac 1440
atgcaagccc tgccacctag gtaa 1464

<210> 86
<211> 487
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 86
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr
35 40 45

Thr Leu Thr Glu Leu Ser Met His Trp Val Arg Gln Ala Pro Gly Lys
50 55 60

Gly Leu Glu Trp Met Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile
65 70 75 80

Tyr Ala Gln Lys Phe Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser
85 90 95

Thr Asp Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Thr Glu Ser Arg Gly Ile Gly Trp Pro Tyr
115 120 125

Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
145 150 155 160

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

Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp
180 185 190

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Ser Gly Ala
195 200 205

Ser Ser Leu Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
210 215 220

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Pro Pro Glu Asp Phe
225 230 235 240

Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Ile Thr Phe Gly
245 250 255

Gln Gly Thr Arg Leu Glu Ile Lys Arg Ala Ala Ala Ile Glu Val Met
260 265 270

Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile
275 280 285

His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro
290 295 300

Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys
305 310 315 320

Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser
325 330 335

Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg

340

345

350

Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg

355360365

Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp

370375380

Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn

385390395400

Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg

405410415

Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly

420425430

Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu

435440445

Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu

450455460

Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His

465470475480

Met Gln Ala Leu Pro Pro Arg

485

<210> 87

<211> 1398

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 87

caggtgcagc ttgtgcagag cggggccgag gtgaagaagc ccggggccag cgtcaaagtg60

tcctgtaagg tcagcggtta caccctcacc gagctgagca tgactgggt acggcaggct120

cccggaag gtcttgagt gatgggtgga ttgatccag aagatggaga gactatctac180

gcccagaagt tccagggccg ggtcaccgta acagaagaca cctcaactga caccgcttac 240
atggagctga gttcactgcg gtccgaggac acggccgtgt attattgtgc caccgagagc 300
cgcggaatcg gatggcctta ctctgactac tggggacagg gtacacttgt tacagtatca 360
tccgggggtg gcggtctctg tgggggctgg tccggagggg gtggatcaga tatccaaatg 420
actcaaagtc caagttccct gtctgcctca gtcggagata gagtcacat aacctgcagg 480
gcaagtcagt ccatctctc ctatctgaac tggtagaac agaaacctgg aaaggcgctt 540
aagctctga tctccggagc ctcatcttg aaatccggtg tcccatctcg ctccagtggc 600
tctggaagcg gtacagattt tactttgacc attagcagcc tcccaccgga agactttgct 660
acatattact gccagcagtc ttactcaacc ccaatcacct tcgggcaagg caccagactc 720
gaaataaaaa gagcagctgc tctcagaggt atgtaccac cgccgtactt ggataacgaa 780
aaaagcaatg ggaccatcat tcatgtgaag ggtaagcacc tttgccctag cccactgttt 840
cctggcccga gtaaaccctt ttgggtactt gtggctgctg gcggcgtgct ggctgtctac 900
tcactcctgg ttaccgtcgc attcatcatc ttttgggtga gatccaaaag aagccgcctg 960
ctccatagcg attacatgaa tatgactcca cgccgccttg gccccacaag gaaacactac 1020
cagccttacg caccacctag agatttcgct gcctatcgga gcagggtgaa gttttcaga 1080
tctgcagatg caccagcgta tcagcagggc cagaaccaac tgtataacga gctcaacctg 1140
ggacgcaggg aagagtatga cgttttggac aagcgagag gacgggacct tgagatgggt 1200
ggcaaaccac gacgaaaaaa cccccaggag ggtctctata atgagctgca gaaggataag 1260
atggctgaag cctattctga aatagcatg aaaggagagc ggagaagggg aaaagggcac 1320
gacggtttgt accagggact cagcactgct acgaaggata cttatgacgc tctccacatg 1380
caagccctgc cacctagg 1398

<210> 88
<211> 466
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 88

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

Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
 20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
 50 55 60

Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly
 115 120 125

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
 130 135 140

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

Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro
 165 170 175

Gly Lys Ala Pro Lys Leu Leu Ile Ser Gly Ala Ser Ser Leu Lys Ser
 180 185 190

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 195 200 205

Leu Thr Ile Ser Ser Leu Pro Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 210 215 220

Gln Gln Ser Tyr Ser Thr Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu
225 230 235 240

Glu Ile Lys Arg Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr
 245 250 255

Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys
 260 265 270

His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp
 275 280 285

Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val
 290 295 300

Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu
305 310 315 320

Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr
 325 330 335

Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr
 340 345 350

Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln
 355 360 365

Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu
 370 375 380

Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly
385 390 395 400

Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu
 405 410 415

Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly
 420 425 430

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

Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro
450 455 460

Pro Arg
465

<210> 89
<211> 1545
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 89
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcaggtgc agttggtgca aagcggcgca gaagttaaga aacctggggc gtcagttaag 120

gtgtcttgca aagtatctgg ctataccctc actgagctgt ccatgcattg ggtaaggcag 180

gctcctggaa aggggctcga atggatggga ggatttgacc ctgaagacgg agagaccatc 240

tacgcccaga aattccaggg tagagtaaca gtgactgagg acactagcac tgacacagcg 300

tacatggagc tgagttctct gagaagttag gacacagccg ttactactg cgctaccgag 360

tccagaggta ttggctggcc atacttcgac tattggggtc agggcaccct ggttacagtg 420

agttcaggag gcggggggctc tgggggggggc gggtccggag ggggggggctc agatatacag 480

atgacgcaga gtccatcaag tctctcagcc agcgtgggag atcgcgtgac tattacttgc 540

cgcgccagcc agagtattag ctctatctg aattggtacc agcaaaagcc cgggaaggcc 600

cctaagcttc tgatttctgg cgctctctt ttgaagtcag gtgtgccaag cagatttagc 660

gggtctggaa gtggcactga ctttacactt actatctcca gcctgcccc agaggatttt 720

gccacatatt actgtcagca aagctactct actccaatca ctttcggcca gggcacaaga 780

ttggagatta agagggctgc cgcacttca aattccatca tgtatttcag ccattttgtg 840

cctgtttttc ttccggccaa acctacaacc actcccgccc cagccccacc tactcccgcc 900

cctaccattg cctcccagcc tctgtctctt agacctgagg cttgtagacc tgctgccggc 960

ggagccgtgc acactcgcgg tctggacttc gcctgcgaca tctatatctg ggcccctctg 1020
gccggcacct gcggcgttct ctttctctca ctgtaatca cactctattg caatcacagg 1080
aacagatcca aaagaagccg cctgtccat agcgattaca tgaatatgac tccacgccgc 1140
cctggcccca caaggaaca ctaccagcct tacgcaccac ctagagattt cgctgcctat 1200
cggagcaggg tgaagtttc cagatctgca gatgcaccag cgtatcagca gggccagaac 1260
caactgtata acgagctcaa cctgggacgc agggaagagt atgacgtttt ggacaagcgc 1320
agaggacggg accctgagat ggggtggcaaa ccaagacgaa aaaaccccca ggagggtctc 1380
tataatgagc tgcagaagga taagatggct gaagcctatt ctgaaatagg catgaaagga 1440
gagcggagaa ggggaaaagg gcacgacggg ttgtaccagg gactcagcac tgctacgaag 1500
gatacttatg acgctctcca catgcaagcc ctgccaccta ggtaa 1545

<210> 90
<211> 514
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 90
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr
35 40 45

Thr Leu Thr Glu Leu Ser Met His Trp Val Arg Gln Ala Pro Gly Lys
50 55 60

Gly Leu Glu Trp Met Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile
65 70 75 80

Tyr Ala Gln Lys Phe Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser
85 90 95

Thr Asp Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Thr Glu Ser Arg Gly Ile Gly Trp Pro Tyr
115 120 125

Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
145 150 155 160

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

Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp
180 185 190

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Ser Gly Ala
195 200 205

Ser Ser Leu Lys Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
210 215 220

Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Pro Pro Glu Asp Phe
225 230 235 240

Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Ile Thr Phe Gly
245 250 255

Gln Gly Thr Arg Leu Glu Ile Lys Arg Ala Ala Ala Leu Ser Asn Ser
260 265 270

Ile Met Tyr Phe Ser His Phe Val Pro Val Phe Leu Pro Ala Lys Pro
275 280 285

Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala
290 295 300

Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly

305

310

315

320

Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile
325 330 335

Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val
340 345 350

Ile Thr Leu Tyr Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu
355 360 365

Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr
370 375 380

Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr
385 390 395 400

Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln
405 410 415

Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu
420 425 430

Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly
435 440 445

Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu
450 455 460

Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly
465 470 475 480

Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser
485 490 495

Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro
500 505 510

Pro Arg

<210> 91
<211> 1479
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 91
caggtgcagt tgggtgcaaag cggcgcagaa gttaagaaac ctggggcgtc agttaaggtg 60
tcttgcaaag tatctggcta taccctcact gagctgtcca tgcatgggt aaggcaggct 120
cctggaaagg ggctcgaatg gatgggagga ttgaccctg aagacggaga gaccatctac 180
gcccagaaat tccagggtag agtaacagtg actgaggaca ctagcactga cacagcgtac 240
atggagctga gttctctgag aagtgaggac acagccgtt actactgcgc taccgagtcc 300
agaggtattg gctggccata cttcactat tggggtcagg gcaccctggt tacagtgagt 360
tcaggaggcg ggggctctgg ggggggcggt tccggagggg ggggctcaga tatacagatg 420
acgcagagtc catcaagtct ctcagccagc gtgggagatc gcgtgactat tacttgccgc 480
gccagccaga gtattagctc ctatctgaat tgggtaccagc aaaagcccgg gaaggcccct 540
aagcttctga ttctggcgc ctctctttg aagtcagggt tgccaagcag atttagcggg 600
tctggaagtg gcaactgact tacacttact atctccagcc tgccccaga ggattttgcc 660
acatattact gtcagcaaag ctactctact ccaatcactt tcggccaggg cacaagattg 720
gagattaaga gggctgccgc actttcaa atccatcatgt atttcagcca tttgtgcct 780
gttttcttc cggccaaacc tacaaccact cccgccccac gcccaacctac tcccgccct 840
accattgcct ccagcctct gtctcttaga cctgaggctt gtagacctgc tgccggcgga 900
gccgtgcaca ctgcggtct ggacttcgcc tgcgacatct atatctgggc ccctctggcc 960
ggcacctgcg gcgttctct tctctcactc gtaatcacac tctattgcaa tcacaggaac 1020
agatcaaaa gaagccgcct gtcctatgc gattacatga atatgactcc acgccgcct 1080
ggccccacaa ggaaacacta ccagccttac gcaccaccta gagatttcgc tgcctatcgg 1140
agcaggggtga agttttccag atctgcagat gcaccagcgt atcagcaggg ccagaaccaa 1200
ctgtataacg agctcaacct gggacgcagg gaagagtatg acgttttgga caagcgcaga 1260
ggacgggacc ctgagatggg tggcaaacca agacgaaaa acccccagga gggctctat 1320

aatgagctgc agaaggataa gatggctgaa gcctattctg aaataggcat gaaaggagag 1380
cggagaaggg gaaaaggga cgacgggttg taccaggga tcagcactgc tacgaaggat 1440
acttatgacg ctctccacat gcaagccctg ccacctagg 1479

<210> 92
<211> 493
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 92
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
20 25 30

Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Val Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

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

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro
130 135 140

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

Ala Ser Gln Ser Ile Ser Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro
165 170 175

Gly Lys Ala Pro Lys Leu Leu Ile Ser Gly Ala Ser Ser Leu Lys Ser
180 185 190

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
195 200 205

Leu Thr Ile Ser Ser Leu Pro Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
210 215 220

Gln Gln Ser Tyr Ser Thr Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu
225 230 235 240

Glu Ile Lys Arg Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser
245 250 255

His Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala
260 265 270

Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser
275 280 285

Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr
290 295 300

Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala
305 310 315 320

Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys
325 330 335

Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr
340 345 350

Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln
355 360 365

Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys
370 375 380

Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln
385 390 395 400

Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu
405 410 415

Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg
420 425 430

Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met
435 440 445

Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly
450 455 460

Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp
465 470 475 480

Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
485 490

<210> 93
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 93
caggtccagt tggtcgaaag tggcgggtggt gtagtgcagc cgggccgcag ttgaggctt 60

tcctgtgcgg cttcaggctt tactttttcc agctatggaa tgcactgggt gcggcaggcc 120

cccggcaaag gacttgagtg ggtggccgtc atttctatg acggatcaga taagtactac 180

gtggacagcg tcaagggcag attcaccatc tctagggaca acagtaaaaa tagactctac 240

ctccagatga atagcctcag agctgaagac acggccgtct actattgtgc tcgggagcgg 300

tatagtggca gagactactg ggggcagggc acactcgta cagtgagtag c 351

<210> 94
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 94
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg Leu Tyr
65 70 75 80

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

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

Val Thr Val Ser Ser
115

<210> 95
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 95
Gly Phe Thr Phe Ser Ser Tyr
1 5

<210> 96
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 96
Ser Tyr Asp Gly Ser Asp
1 5

<210> 97
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 97
Glu Arg Tyr Ser Gly Arg Asp Tyr
1 5

<210> 98
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 98
gagattgtta tgaccagag tctgcgacc ctctcagtca gccccgggga gcgcgcaact 60
ttgtcttgca gagctagtca gtccgtgtcc tctcttctga catggtacca gcaaaagccc 120
gggcaggctc cgcgccttt gatctttggg gcttcaaca gagccactgg gattcccgca 180
cgattctctg gctccgggag cgggtactggt ttaccctga cgattagcag tctccagagc 240
gaggacttcg ccgtatacta ctgccagcag tacgatacgt ggccattcac ttttgacca 300
gggactaaag tggatttta gcgc 324

<210> 99
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 99
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Leu
20 25 30

Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Thr Trp Pro Phe
85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg
100 105

<210> 100
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 100
Arg Ala Ser Gln Ser Val Ser Ser Leu Leu Thr
1 5 10

<210> 101
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 101
Gly Ala Ser Thr Arg Ala Thr
1 5

<210> 102
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 102
Gln Gln Tyr Asp Thr Trp Pro Phe Thr
1 5

<210> 103
<211> 1425
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 103
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60
ccgcagggtcc agttggtcga aagtggcggg ggtgtagtgc agccggggccg cagtttgagg 120
ctttcctgtg cggcttcagg ctttactttt tccagctatg gaatgcactg ggtgcggcag 180
gcccccgga aaggactga gtgggtggcc gtcatttctt atgacggatc agataagtac 240
tacgtggaca gcgtaaggg cagattcacc atcttaggg acaacagtaa aaatagactc 300
tacctccaga tgaatagcct cagagctgaa gacacggccg tctactattg tgctcgggag 360
cggatatagt gacagagacta ctggggggcag ggcacactcg ttacagtgag tagcggcgga 420
ggaggggagtg gggggcgggtgg ctccggtgga ggagggttctg agattgttat gaccagagat 480

cctgcgaccc tctcagtcag ccccggggag cgcgcaactt tgtcttgag agctagtcag 540
tccgtgtcct ctctctgac atgggtaccag caaaagcccg ggcaggctcc ggccttttg 600
atctttgggg ctcaacaag agccactggg attcccgac gattctctgg ctccgggagc 660
ggtactgggt tcaccctgac gattagcagt ctccagagcg aggacttcgc cgtatactac 720
tgccagcagt acgatacgtg gccattcact ttggaccag ggactaaagt ggattttaag 780
cgcgccgccc ctctcgataa cgaaaagtca aatggcacca taatccacgt caaaggcaag 840
cacctgtgcc ctccccgct ctccccgga ccagtaaac cttttgggt gctggtgtt 900
gtggggggcg tgctggcctg ctatagcctt ttggtcactg tagcctcat ttttttgg 960
gtcagatcca aaagaagccg cctgctccat agcgattaca tgaatatgac tccacgcccgc 1020
cctggcccca caaggaaaca ctaccagcct tacgcaccac ctagagattt cgctgcctat 1080
cggagcaggg tgaagtttc cagatctgca gatgcaccag cgtatcagca gggccagaac 1140
caactgtata acgagctcaa cctgggacgc aggggaagagt atgacgtttt ggacaagcgc 1200
agaggacggg accctgagat ggggtggcaaa ccaagacgaa aaaaccccca ggagggtctc 1260
tataatgagc tgcagaagga taagatggct gaagcctatt ctgaaatagg catgaaagga 1320
gagcggagaa ggggaaaagg gcacgacggt ttgtaccagg gactcagcac tgctacgaag 1380
gatacttatg acgctctcca catgcaagcc ctgccaccta ggtaa 1425

<210> 104
<211> 474
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 104
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
35 40 45

Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys
50 55 60

Gly Leu Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr
65 70 75 80

Tyr Val Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
85 90 95

Lys Asn Arg Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Arg Glu Arg Tyr Ser Gly Arg Asp Tyr Trp
115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
130 135 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Met Thr Gln Ser
145 150 155 160

Pro Ala Thr Leu Ser Val Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys
165 170 175

Arg Ala Ser Gln Ser Val Ser Ser Leu Leu Thr Trp Tyr Gln Gln Lys
180 185 190

Pro Gly Gln Ala Pro Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala
195 200 205

Thr Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe
210 215 220

Thr Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr
225 230 235 240

Cys Gln Gln Tyr Asp Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys
245 250 255

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

260	265	270
Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe		
275	280	285
Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val Val Gly Gly Val		
290	295	300
Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp		
305	310	315 320
Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met		
325	330	335
Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala		
340	345	350
Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg		
355	360	365
Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn		
370	375	380
Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg		
385	390	395 400
Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro		
405	410	415
Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala		
420	425	430
Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His		
435	440	445
Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp		
450	455	460
Ala Leu His Met Gln Ala Leu Pro Pro Arg		
465	470	

<210> 105
<211> 1359
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 105
caggtccagt tggtcgaaag tggcgggtgt gtagtgcagc cgggccgcag tttgaggctt 60
tcctgtgcgg cttcaggctt tactttttcc agctatggaa tgactgggt gcggcaggcc 120
cccggcaaag gacttgagt ggtggccgtc atttctatg acggatcaga taagtactac 180
gtggacagcg tcaagggcag attcaccatc tctagggaca acagtaaaaa tagactctac 240
ctccagatga atagcctcag agctgaagac acggccgtct actattgtgc tcgggagcgg 300
tatagtggca gagactactg ggggcagggc acactcgta cagtgagtag cggcggagga 360
gggagtgggg gcggtggctc cggtgaggga ggttctgaga ttgttatgac ccagagtcct 420
gcgaccctct cagtcagccc cggggagcgc gcaactttgt cttgcagagc tagtcagtcc 480
gtgtcctctc ttctgacatg gtaccagcaa aagcccgggc aggtccgcg cctttgatc 540
tttggggctt caacaagagc cactgggatt cccgcacgat tctctggctc cgggagcggg 600
actggtttca ccctgacgat tagcagctc cagagcgagg acttcgccgt atactactgc 660
cagcagtacg atacgtggcc attcactttt ggaccaggga ctaaagtgga tttaagcgc 720
gccgccgctc tcgataacga aaagtcaaat ggaccataa tccacgtcaa aggcaagcac 780
ctgtgccctt ccccgtctt ccccgaccc agtaaaccat tttgggtgct ggttgtgtg 840
gggggctgc tggcctgcta tagcctttt gtcactgtag cttcattat ttttgggtc 900
agatcaaaa gaagccgcct gtcctatgc gattacatga atatgactcc acgccgcct 960
ggccccacaa ggaaacacta ccagccttac gcaccaccta gagatttcgc tgcctatcgg 1020
agcagggtga agttttccag atctgcagat gcaccagcgt atcagcaggg ccagaacaa 1080
ctgtataacg agctcaacct gggacgcagg gaagagtatg acgttttga caagcgaga 1140
ggacgggacc ctgagatggg tggcaaacca agacgaaaa acccccagga gggctctat 1200
aatgagctgc agaaggataa gatggctgaa gcctattctg aaataggcat gaaaggagag 1260
cggagaaggg gaaaagggca cgacggtttg taccagggac tcagcactgc tacgaaggat 1320

acttatgacg ctctccacat gcaagccctg ccacctagg 1359

<210> 106
<211> 453
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 106
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg Leu Tyr
65 70 75 80

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

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

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly
115 120 125

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

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

Val Ser Ser Leu Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
165 170 175

Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala
180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser
195 200 205

Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp
210 215 220

Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg
225 230 235 240

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

Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys
260 265 270

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

Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg
290 295 300

Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro
305 310 315 320

Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe
325 330 335

Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro
340 345 350

Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly
355 360 365

Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro
370 375 380

Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr
385 390 395 400

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

Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln
420 425 430

Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln
435 440 445

Ala Leu Pro Pro Arg
450

<210> 107
<211> 1452
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 107
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcaggtgc agctcgtgga gtctggcggc ggcgtgggtcc agcccggccg gtccttgcgc 120

ctgtcctgcg ccgccagcgg gtttactttt tcctctacg gcatgcactg ggtgcgccag 180

gctcccggca agggcctcga gtgggtcgcc gtgatctcat acgatgggtc agacaaatac 240

tatgtcgatt ctgttaaagg gcggtttacc atttcaagag ataactctaa gaataggctg 300

tatttcaga tgaacagcct gagggctgaa gataccgcag tgtactattg cgctagggag 360

cggtatatgtg gccgcgatta ctggggacag ggtacactgg tgaccgtgag ctctgggggt 420

ggcgggaagcg ggggtggcgg aagcggcgga gggggtagtg aaattgtgat gaccagtcct 480

ccggctacac tttcagtctc ccttggggag agagctacac tgtcatgcag agcgtcccag 540

tccgtctctt ctctccttac ctggtatcag cagaagcccg gccaggctcc tcgactgctg 600

atcttcggtg cctccacaag ggcgaccggg attccagccc gcttctcagg ttctgggagc 660

ggaactgggtt tcactttgac aatcagttca ctgcagtcag aggatttcgc cgtgtactac 720

tgccagcaat acgacacatg gccattcact ttcggacccg gtaccaaagt cgatttcaag 780

agagccgcgg ccatcgaggt tatgtacca ccaccatc tggacaatga aaaaagcaat 840

ggaaccatta tccatgtgaa gggtaa cac ctctgcccta gccactttt ccctggccca 900

tcaaagccct tctgggtcct ggtgggtcgtg ggggggtgtgc tggcctgtta cagccttctg 960

gtgacgggtg ctttcattat ctctgggtt agatccaaaa gaagccgcct gctccatagc 1020

gattacatga atatgactcc acgccgcctt ggccccacaa ggaaacacta ccagccttac 1080

gcaccaccta gagatttcgc tgcctatcgg agcagggtga agttttccag atctgcagat 1140

gcaccagcgt atcagcaggg ccagaaccaa ctgtataacg agctcaacct gggacgcagg 1200

gaagagtatg acgttttga caagcgcaga ggacgggacc ctgagatggg tggcaaacca 1260

agacgaaaaa acccccagga gggctcttat aatgagctgc agaaggataa gatggctgaa 1320

gcctattctg aaataggcat gaaaggagag cggagaagg gaaaaggga cgacggtttg 1380

taccaggac tcagcactgc tacgaaggat acttatgacg ctctccacat gcaagccctg 1440

ccacctaggt aa 1452

<210> 108

<211> 483

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 108

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu

1 5 10 15

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

20 25 30

Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe

35 40 45

Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys

50 55 60

Gly Leu Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr
65 70 75 80

Tyr Val Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
 85 90 95

Lys Asn Arg Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
 100 105 110

Ala Val Tyr Tyr Cys Ala Arg Glu Arg Tyr Ser Gly Arg Asp Tyr Trp
 115 120 125

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 130 135 140

Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Met Thr Gln Ser
145 150 155 160

Pro Ala Thr Leu Ser Val Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys
 165 170 175

Arg Ala Ser Gln Ser Val Ser Ser Leu Leu Thr Trp Tyr Gln Gln Lys
 180 185 190

Pro Gly Gln Ala Pro Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala
 195 200 205

Thr Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe
 210 215 220

Thr Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr
225 230 235 240

Cys Gln Gln Tyr Asp Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys
 245 250 255

Val Asp Phe Lys Arg Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro
 260 265 270

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

275 280 285

Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe
290 295 300

Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu
305 310 315 320

Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg
325 330 335

Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro
340 345 350

Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala
355 360 365

Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
370 375 380

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
385 390 395 400

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

Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu
420 425 430

Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys
435 440 445

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
450 455 460

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
465 470 475 480

Pro Pro Arg

<210> 109
<211> 1386
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 109
caggtgcagc tcgtggagtc tggcggcggc gtggtccagc ccggccggtc cctgcgcctg 60
tcctgcgccg ccagcgggtt tacttttcc tcctacggca tgactgggt gcgccaggct 120
cccggcaagg gcctcgagtg ggtcgccgtg atctcatagc atgggtcaga caaatactat 180
gtcgattctg ttaaagggcg gttaccatt tcaagagata actctaagaa taggctgtat 240
ttgcagatga acagcctgag ggctgaagat accgcagtg actattgcgc tagggagcgg 300
tatagtggcc gcgattactg gggacagggt aactggtga ccgtgagctc tgggggtggc 360
ggaagcgggg gtggcgggaag cggcggaggg gtagtgaaa ttgtgatgac ccagtctccg 420
gctacacttt cagtctcccc tggggagaga gctacactgt catgcagagc gtcccagtcc 480
gtctcttctc tccttacctg gtatcagcag aagcccgcc aggctcctcg actgctgac 540
ttcggtgcc tccaaagggc gaccgggatt ccagcccgt tctcagggtc tgggagcgga 600
actggtttca ctttgacaat cagttcactg cagtcagagg atttcgccgt gtactactgc 660
cagcaatacg acacatggcc attcacttcc ggaccggga ccaaagtcga ttcaagaga 720
gccgcggcca tcgaggttat gtaccacca ccatatctgg acaatgaaaa aagcaatgga 780
accattatcc atgtgaaggg taaacacctc tgcctagcc cactttccc tggcccatca 840
aagcccttct gggcttgggt ggtcgtgggg ggtgtgctgg cctgttacag cttctgggtg 900
acggttgctt tcattatct ctgggttaga tcaaaaagaa gccgcctgct ccatagcgat 960
tacatgaata tgactccacg ccgcctggc ccacaagga aacactacca gccttacgca 1020
ccacctagag atttcgctgc ctatcgagc aggggtgaagt ttccagatc tgcagatgca 1080
ccagcgtatc agcagggcca gaaccaactg tataacgagc tcaacctggg acgcagggaa 1140
gagtatgacg ttttgacaa gcgcagagga cgggaccctg agatgggtgg caaaccaaga 1200
cgaaaaaacc ccaggaggg tctctataat gagctgcaga aggataagat ggctgaagcc 1260
tattctgaaa taggcatgaa aggagagcgg agaaggggaa aagggcacga cggttgtac 1320

cagggactca gcactgctac gaaggatact tatgacgctc tccacatgca agccctgcca 1380

cctagg 1386

<210> 110
<211> 462
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 110
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg Leu Tyr
65 70 75 80

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

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

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly
115 120 125

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

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

Val Ser Ser Leu Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
 165 170 175

Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala
 180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser
 195 200 205

Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp
 210 215 220

Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg
 225 230 235 240

Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu
 245 250 255

Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro
 260 265 270

Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val
 275 280 285

Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe
 290 295 300

Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp
 305 310 315 320

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr
 325 330 335

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val
 340 345 350

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn
 355 360 365

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val
370 375 380

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg
385 390 395 400

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

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg
420 425 430

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys
435 440 445

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
450 455 460

<210> 111
<211> 1533
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 111
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccgcaggtgc agttggttga atcaggaggg ggtgtggtgc aaccgggtcg gtcactgcgc 120

ctcagttgtg ctgcttccgg gtttactttc agctcatatg ggatgcactg ggtacggcag 180

gctccaggta aaggcttggga atgggtggcg gtgatcagct atgacggctc tgacaaatat 240

tatgtggact ccgtgaaagg cagattcacc atcagtcgag acaactcaaa gaatagactc 300

tacttcaga tgaatagcct ccggggccgaa gatactgcag tctattattg cgcccgggag 360

cgctacagtg gaagagacta ttggggggcaa ggaactcttg tcacagtctc atctggcggc 420

ggcgggcagcg gtggggggcgg atctggcggg ggcgggcagcg aaatcggtat gactcagagt 480

cctgccacac tgagcgttag ccctggtgag agagcaacac ttagctgcag agctagtcag 540

agtgtttcca gtcttttgac atggtaccaa cagaagcccg gtcaagctcc acgactgctc 600

atcttcggtg catccacccg cgcaaccggg ataccgccg gggtttccgg ttctggaagt 660
ggcacaggat tcacgctcac catttctct ctgcagtctg aagactttgc cgtgtattac 720
tgccagcagt acgatacctg gccctttacc ttggcccag gtactaaagt ggattttaa 780
cgagctgctg cactttcaa tagtattatg tactttcac atttgtgcc cgtgttcctg 840
cctgcgaagc ctacgacaac ccagcccct aggccgccca caccggcccc aactattgcc 900
tcccagccat tgtctctgag acccgaagct tgcacacctg ctgctggagg cgccgttcac 960
acccgaggat tggatttcgc atgtgacatt tacatctggg cccctttggc cggaacctgc 1020
gggtgtgctg tgctgtcact cgtgattaca ctttactgca accaccgaaa cagatccaaa 1080
agaagccgcc tgctccatag cgattacatg aatatgactc cacgccgcc tggccccaca 1140
aggaaacact accagcctta cgcaccacct agagatttcg ctgcctatcg gagcagggtg 1200
aagttttcca gatctgcaga tgcaccagcg tatcagcagg gccagaacca actgtataac 1260
gagctcaacc tgggacgcag ggaagagtat gacgttttgg acaagcgag aggacgggac 1320
cctgagatgg gtggcaaacc aagacgaaaa aacccccagg aggggtctcta taatgagctg 1380
cagaaggata agatggctga agcctattct gaaataggca tgaaaggaga gcggagaagg 1440
ggaaaagggc acgacgggtt gtaccaggga ctcagcactg ctacgaagga tacttatgac 1500
gctctccaca tgcaagccct gccacctagg taa 1533

<210> 112
<211> 509
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 112
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe
35 40 45

Thr Phe Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys
50 55 60

Gly Leu Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr
65 70 75 80

Tyr Val Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser
85 90 95

Lys Asn Arg Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
100 105 110

Ala Val Tyr Tyr Cys Ala Arg Glu Arg Tyr Ser Gly Arg Asp Tyr Trp
115 120 125

Gly Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Met Thr Gln Ser Pro
145 150 155 160

Ala Thr Leu Ser Val Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg
165 170 175

Ala Ser Gln Ser Val Ser Ser Leu Leu Thr Trp Tyr Gln Gln Lys Pro
180 185 190

Gly Gln Ala Pro Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala Thr
195 200 205

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr
210 215 220

Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys
225 230 235 240

Gln Gln Tyr Asp Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys Val
245 250 255

Asp Phe Lys Arg Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser

260	265	270
His Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala		
275	280	285
Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser		
290	295	300
Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr		
305	310	315
Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala		
325	330	335
Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys		
340	345	350
Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr		
355	360	365
Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln		
370	375	380
Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys		
385	390	395
Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln		
405	410	415
Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu		
420	425	430
Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg		
435	440	445
Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met		
450	455	460
Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly		
465	470	475
		480

Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp
485 490 495

Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
500 505

<210> 113
<211> 1467
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 113
caggtgcagt tgggtgaatc aggaggggggt gtggtgcaac ccggtcggtc actgcgcctc 60
agttgtgctg ctccggggtt tactttcagc tcatatggga tgcactgggt acggcaggct 120
ccaggtaaag gcttggaatg ggtggcgggtg atcagctatg acggctctga caaatattat 180
gtggactccg tgaaaggcag attcaccatc agtcgagaca actcaaagaa tagactctac 240
ttgcagatga atagcctccg ggccgaagat actgcagtct attattgcgc ccgggagcgc 300
tacagtggaa gagactattg ggggcaagga actcttgtca cagtctcatc tggcggcggc 360
ggcagcgggtg ggggcggatc tggcggggggc ggcagcgaaa tcgttatgac tcagagtcct 420
gccacactga gcgtagccc tggtagagaga gcaacactta gctgcagagc tagtcagagt 480
gtttccagtc tttgacatg gtaccaacag aagcccggtc aagctccacg actgctcatc 540
ttcggtgcat ccaccgcgc aaccgggata cccgcccggg tttccgggtc tggaagtggc 600
acaggattca cgctcaccat ttcttctctg cagtctgaag actttgccgt gtattactgc 660
cagcagtagc atacctggcc ctttaccttt ggcccaggta ctaaagtgga ttttaacga 720
gctgctgcac ttccaatag tattatgtac tttcacatt ttgtgccgt gttcctgcct 780
gcgaagccta cgacaacccc agcccctagg ccgcccacac cgcccccaac tattgcctcc 840
cagccattgt ctctgagacc cgaagcttg agacctgtg ctggaggcgc cgttcacacc 900
cgaggattgg atttcgcatg tgacatttac atctgggccc ctttggccgg aacctgcggt 960
gtgctgctgc tgtcactcgt gattacactt tactgcaacc accgaaacag atccaaaaga 1020
agccgcctgc tccatagcga ttacatgaat atgactccac gccgccttgg ccccaagg 1080

aaacactacc agccttacgc accacctaga gatttcgctg cctatcggag caggggtgaag 1140
ttttccagat ctgcagatgc accagcgtat cagcagggcc agaaccaact gtataacgag 1200
ctcaacctgg gacgcaggga agagtatgac gttttggaca agcgcagagg acgggaccct 1260
gagatgggtg gcaaaccaag acgaaaaaac ccccaggagg gtctctataa tgagctgcag 1320
aaggataaga tggctgaagc ctattctgaa ataggcatga aaggagagcg gagaagggga 1380
aaagggcacg acggtttgta ccagggactc agcactgcta cgaaggatac ttatgacgct 1440
ctccacatgc aagccctgcc acctagg 1467

<210> 114
<211> 489
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 114
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr Tyr Val Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg Leu Tyr
65 70 75 80

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

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

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125

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

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

Val Ser Ser Leu Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
165 170 175

Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala
180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser
195 200 205

Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp
210 215 220

Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg
225 230 235 240

Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser His Phe Val Pro
245 250 255

Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro
260 265 270

Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu
275 280 285

Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp
290 295 300

Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly
305 310 315 320

Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys Asn His Arg Asn
325 330 335

Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr
340 345 350

Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro
355 360 365

Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser
370 375 380

Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu
385 390 395 400

Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg
405 410 415

Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln
420 425 430

Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr
435 440 445

Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp
450 455 460

Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala
465 470 475 480

Leu His Met Gln Ala Leu Pro Pro Arg
485

<210> 115
<211> 1425
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 115
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccggagattg tgatgacca gtccctgct accctgtccg tcagtccggg cgagagagcc 120
accttgcat gccgggccag ccagtcctc agcagtctcc tgacttgta tcagcaaaaa 180
ccagggcagg caccgcggct ttgattttt ggtgcaagca cacgcgccac tggcattcca 240
gctaggtttt ctggaagtgg atctgggaca ggcttcactc tgacaatcag tagcctgcag 300
agtgaggact ttgctgttta ctactgtcaa cagtacgaca cctggccatt cacattcggg 360
cccggcacca aggtcgactt caagaggggc ggtggagggt cagggtgggg cgggtcaggc 420
ggcgggtgggt ctcaggttca actggtggaa tcagggtggcg gcgttgcca accggggcga 480
tcacttcgac tttctgtgc tgcctcaggc tttactttt catcctatgg gatgcactgg 540
gttcggcagg ctcccgaaa aggactcgag tgggttgag tgatcttta cgatggctca 600
gacaagtatt atgtggactc agtcaagggg agattcaca taagccgaga caactccaaa 660
aaccggcttt atctccagat gaacagcctt agagcggga ataccgcggt atactactgt 720
gcccgcgaga ggtattccgg cagagactac tggggacagg gcacactggt caccgtgagt 780
tctgccgag cgctcgataa cgaaaagagc aacggaacca ttatccacgt taagggaag 840
cacctgtgcc ccagtcacct cttcccagga ccactaaac ctttctgggt tctggtagta 900
gttgaggggg tccttgcatg ttactccctt ttggtcaccg tcgccttcat tttttctgg 960
gtgagatcca aaagaagccg cctgctccat agcgattaca tgaatatgac tccacgccgc 1020
cctggcccca caaggaaaca ctaccagcct tacgcaccac ctagagattt cgctgcctat 1080
cggagcaggg tgaagtttc cagatctgca gatgcaccag cgtatcagca gggccagaac 1140
caactgtata acgagctcaa cctgggacgc aggggaagagt atgacgtttt ggacaagcgc 1200
agaggacggg accctgagat ggggtggcaaa ccaagacgaa aaaaccccca ggagggtctc 1260
tataatgagc tgcagaagga taagatggct gaagcctatt ctgaaatagg catgaaagga 1320
gagcggagaa ggggaaaagg gcacgacggg ttgtaccagg gactcagcac tgctacgaag 1380
gatactatg acgctctcca catgcaagcc ctgccaccta ggtaa 1425

<210> 116
<211> 474
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

polypeptide

<400> 116

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu
20 25 30

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

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

Pro Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro
65 70 75 80

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile
85 90 95

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

Asp Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys
115 120 125

Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
130 135 140

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
145 150 155 160

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
165 170 175

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
180 185 190

Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr Tyr Val Asp Ser Val
195 200 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg Leu Tyr
210 215 220

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225 230 235 240

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

Val Thr Val Ser Ser Ala Ala Ala Leu Asp Asn Glu Lys Ser Asn Gly
260 265 270

Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe
275 280 285

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

Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp
305 310 315 320

Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met
325 330 335

Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala
340 345 350

Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg
355 360 365

Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn
370 375 380

Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg
385 390 395 400

Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro
405 410 415

Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala

420

425

430

Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His

435440445

Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp

450455460

Ala Leu His Met Gln Ala Leu Pro Pro Arg

465470

<210> 117
<211> 1359
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 117
gagattgtga tgaccagtc ccctgctacc ctgtccgtca gtccgggcga gagagccacc 60
ttgtcatgcc gggccagcca gtccgtcagc agtctcctga cttggtatca gcaaaaacca 120
gggcaggcac cgcggctttt gatttttggg gcaagcacac gcgccactgg cattccagct 180
aggttttctg gaagtggatc tgggacaggc ttactctga caatcagtag cctgcagagt 240
gaggactttg ctgtttacta ctgtcaacag tacgacacct ggccattcac attcgggccc 300
ggcaccaagg tcgacttcaa gaggggcggt ggagggtcag gtggtggcgg gtcaggcggc 360
ggtgggtctc aggttcaact ggtggaatca ggtggcggcg ttgtccaacc ggggcgatca 420
cttcgacttt cctgtgctgc ctcaggcttt acttttcat cctatgggat gcactggggt 480
cggcaggctc ccgaaaaagg actcgagtgg gttgcagtga tctcttacga tggctcagac 540
aagtattatg tggactcagt caaggggaga ttcacaataa gccgagacaa ctcaaaaac 600
cggctttatc tccagatgaa cagccttaga gcggaagata ccgcggtata ctactgtgcc 660
cgcgagaggt attccggcag agactactgg ggacagggca cactgggtcac cgtgagttct 720
gccgcagcgc tcgataacga aaagagcaac ggaaccatta tccacgttaa gggcaagcac 780
ctgtgcccca gtcccctctt cccaggacca tctaaacct tctgggttct ggtagtagtt 840
ggaggggtcc ttgcatgtta ctccctttg gtcaccgtcg ctttcattat tttctgggtg 900

agatc caaaa gaagccgcct gctccatagc gattacatga atatgactcc acgccgcctt 960
ggccccacaa ggaaacacta ccagccttac gcaccaccta gagatttcgc tgcctatcgg 1020
agcaggggtga agttttccag atctgcagat gcaccagcgt atcagcaggg ccagaaccaa 1080
ctgtataacg agctcaacct gggacgcagg gaagagtatg acgttttgga caagcgcaga 1140
ggacggggacc ctgagatggg tggcaaacca agacgaaaaa acccccagga gggctcttat 1200
aatgagctgc agaaggataa gatggctgaa gcctattctg aaataggcat gaaaggagag 1260
cggagaaggg gaaaagggca cgacggtttg taccaggac tcagcactgc tacgaaggat 1320
acttatgacg ctctccacat gcaagccctg ccacctagg 1359

<210> 118
<211> 453
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 118
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Leu
20 25 30

Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Thr Trp Pro Phe
85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Val
 115 120 125

Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser
 130 135 140

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val
 145 150 155 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ser Tyr
 165 170 175

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

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

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu Arg Tyr
 210 215 220

Ser Gly Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 225 230 235 240

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

Lys Gly Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys
 260 265 270

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

Leu Leu Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg
 290 295 300

Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro
 305 310 315 320

Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe
325 330 335

Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro
340 345 350

Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly
355 360 365

Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro
370 375 380

Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr
385 390 395 400

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

Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln
420 425 430

Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln
435 440 445

Ala Leu Pro Pro Arg
450

<210> 119
<211> 1452
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 119
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccggagatcg tcatgacaca gagtccagct accctgagcg tgtcccctgg agagagagcc 120

accctgtcct gtagggctag tcagagtgtg tccagcctcc tcacctggtg tcaacagaag 180

cctgggtcaag ctccccggct gcttatcttc ggggccagca cgcgagccac aggcattccc 240

gccagattct ctggctctgg cagtggcacc gggttcactc tcacgatctc atccctgcag 300
tcagaggatt tcgctgtgta ttactgtcag cagtacgata catggccctt caccctcggc 360
ccggggcacaa aagtagattt caagcgcggc ggcgggggta gtggggggcgg gggatcagga 420
ggaggggggct cccaagtaca gctggttgag agcggcggcg ggggtgggtca gcccgggcgc 480
agcctcaggc tgagttgcgc agcatcagga ttcacattca gttcttatgg aatgcattgg 540
gtcagacagg ctcccgggaa gggccttgaa tgggtggcag tcattagcta cgacggaagc 600
gataagtact atgtggactc agttaaaggg agatttacta tcagccgcga caattccaaa 660
aacagattgt atttcagat gaactccctc agggcggagg aactgtctgt atattactgc 720
gcacgagaga gatactccgg ccgagactat tggggccaag gaacattggg aactgtgagc 780
tccgccgcag ctattgagggt catgtacccc ccaccttacc tcgataatga gaagagtaat 840
gggactataa ttcacgtaaa gggcaaacac ctgtgccctt ccccgtgtt tccaggtcca 900
agtaagccgt tctgggtcct ggttgtgggtg ggaggggtgc tggcctgcta ttctctgttg 960
gttaccgtgg cctttatcat tttctgggtg agatccaaaa gaagccgcct gctccatagc 1020
gattacatga atatgactcc acgccgcctt ggccccacaa ggaaacacta ccagccttac 1080
gcaccaccta gagatttcgc tgcctatcgg agcagggtga agttttccag atctgcagat 1140
gcaccagcgt atcagcaggg ccagaaccaa ctgtataacg agctcaacct gggacgcagg 1200
gaagagtatg acgttttggg caagcgcaga ggacgggacc ctgagatggg tggcaaacca 1260
agacgaaaaa acccccagga ggggtctctat aatgagctgc agaaggataa gatggctgaa 1320
gcctattctg aaataggcat gaaaggagag cggagaaggg gaaaagggca cgacggtttg 1380
taccagggac tcagcactgc tacgaaggat acttatgacg ctctccacat gcaagccctg 1440
ccacctaggt aa 1452

<210> 120
<211> 483
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 120
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu

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

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225 230 235 240

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

Val Thr Val Ser Ser Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro
 260 265 270

Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly
 275 280 285

Lys His Leu Cys Pro Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe
 290 295 300

Trp Val Leu Val Val Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu
305 310 315 320

Val Thr Val Ala Phe Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg
 325 330 335

Leu Leu His Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro
 340 345 350

Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala
 355 360 365

Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
 370 375 380

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
385 390 395 400

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

Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu
 420 425 430

Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys

435 440 445

Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu
450 455 460

Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu
465 470 475 480

Pro Pro Arg

<210> 121
<211> 1386
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 121
gagatcgta tgacacagag tccagctacc ctgagcgtgt cccctggaga gagagccacc 60
ctgtcctgta gggctagtca gagtgtgtcc agcctctca cctggtatca acagaagcct 120
ggtaagctc cccggctgt tattctcggg gccagcacgc gagccacagg catcccgcc 180
agattctctg gctctggcag tggcaccggg ttactctca cgatctcatc cctgcagtca 240
gaggatttcg ctgtgtatta ctgtcagcag tacgatacat ggcccttcac ctccggcccc 300
ggcacaaaag tagatttcaa gcgcggcggc gggggtagtg ggggcggggg atcaggagga 360
gggggctccc aagtacagct ggtagagagc ggcgcgggg tgggtcagcc cgggcgcagc 420
ctcaggctga gttgcgcagc atcaggattc acattcagtt cttatggaat gcattgggtc 480
agacaggctc ccgggaaggg cctgaatgg gtggcagtca ttagctacga cggaagcgat 540
aagtactatg tggactcagt taaagggaga ttactatca gccgcgacaa ttcaaaaac 600
agattgtatt tgcagatgaa ctccctcagg gcggaggaca ctgctgtata ttactgcga 660
cgagagagat actccggccg agactattgg ggccaaggaa cattggtaac tgtgagctcc 720
gccgcagcta ttagggtcat gtacccccca cttatctcg ataagagaa gagtaatggg 780
actataattc acgtaaaggg caaacacctg tgcccttccc cgctgtttcc aggtccaagt 840
aagccgttct gggctcctgt tgtggtggga ggggtgctgg cctgctattc tctgttggtt 900

accgtggcct ttatcatttt ctgggtgaga tccaaaagaa gccgcctgct ccatagcgat 960

tacatgaata tgactccacg cgcgcctggc cccacaagga aacactacca gccttacgca 1020

ccacctagag atttcgctgc ctatcggagc aggggtgaagt ttccagatc tgcagatgca 1080

ccagcgatc agcagggcca gaaccaactg tataacgagc tcaacctggg acgcagggaa 1140

gagtatgacg ttttgacaa gcgcagagga cgggaccctg agatgggtgg caaaccaaga 1200

cgaaaaaacc cccaggaggg tctctataat gagctgcaga aggataagat ggctgaagcc 1260

tattctgaaa taggcatgaa aggagagcgg agaaggggaa aagggcacga cggttgtac 1320

cagggactca gcactgctac gaaggatact tatgacgctc tccacatgca agccctgccca 1380

cctagg 1386

<210> 122

<211> 462

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 122

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly

1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Leu

20 25 30

Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile

35 40 45

Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly

50 55 60

Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser

65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Thr Trp Pro Phe

85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg Gly Gly Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Val
115 120 125

Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser
130 135 140

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val
145 150 155 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ser Tyr
165 170 175

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

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

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu Arg Tyr
210 215 220

Ser Gly Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
225 230 235 240

Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu
245 250 255

Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro
260 265 270

Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro Phe Trp Val Leu Val Val
275 280 285

Val Gly Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe
290 295 300

Ile Ile Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp
305 310 315 320

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr
325 330 335

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val
340 345 350

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn
355 360 365

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val
370 375 380

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg
385 390 395 400

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

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg
420 425 430

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys
435 440 445

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
450 455 460

<210> 123
<211> 1533
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 123
atggcactcc ccgtaactgc tctgtgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccggaaatag tgatgactca gtccccggcc accctcagcg tgtcccccg ggagcgagcg 120

accctgtcat gcagggcttc ccagagtgtc agctccctgc tcacttggtg tcagcaaaaag 180

ccggggcagg ctccccgcct cctcatcttc ggggcatcaa ctagggccac cggcattcct 240
gcaagatttt ccgggtctgg cagcggcacc ggcttcaccc ttaccattag ctctctgcag 300
tctgaggact tcgccgttta ctattgtcag cagtatgata cttggccctt taccttcggt 360
cccggaacta aggtggactt caagcgcggg ggggggtggat ctggagggtg tggctccggg 420
ggcgggtggaa gccaggtcca gttgggtgag agcggcggcg gagtggtgca gcccgggagg 480
tccttgccgc tgagctgtgc agcctccggt ttacttttt ctagctatgg aatgcattgg 540
gtaagacagg ctcccgaaa aggcctcgag tgggtggcgg tcattagcta tgatggatct 600
gataaatact atgtggactc agttaagggg cgcttcacaa tctcaagaga caatagcaaa 660
aatagactgt acctgcagat gaatagtctg cgcgccgagg aactgcccgt gtactactgc 720
gcccgcgaga gatacagcgg acgggattac tggggccagg gtaccctcgt aacggtgtcc 780
tccgctgccg cccttagcaa cagcattatg tacttttctc atttcgtgcc agtctttctc 840
ccagcaaagc ccaccactac cccggccccc aggccgcta ctctgcccc cactatcgcg 900
tctcagctc tctcctgcg gcccgaggcc tgccggccag ccgcaggggg cgccgtacat 960
actcgggggtt tggatttcgc ttgcgacata tatatttggg cccccctcgc cggcacatgt 1020
ggagtgtctgc tcctgagtct cggtataacc ctctattgca accatagaaa cagatccaaa 1080
agaagccgcc tgctccatag cgattacatg aatatgactc cacgccgcc tggccccaca 1140
aggaaacact accagcctta cgcaccacct agagatttcg ctgcctatcg gagcagggtg 1200
aagttttcca gatctgcaga tgcaccagcg tatcagcagg gccagaacca actgtataac 1260
gagctcaacc tgggacgcag ggaagagtat gacgttttgg acaagcgag aggacgggac 1320
cctgagatgg gtggcaaacc aagacgaaaa aacccccagg agggctctta taatgagctg 1380
cagaaggata agatggctga agcctattct gaaataggca tgaaaggaga gcggagaagg 1440
ggaaaagggc acgacggttt gtaccaggga ctcagcactg ctacgaagga tacttatgac 1500
gctctccaca tgcaagccct gccacctagg taa 1533

<210> 124
<211> 510
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

polypeptide

<400> 124

Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu
20 25 30

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

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

Pro Arg Leu Leu Ile Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro
65 70 75 80

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile
85 90 95

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

Asp Thr Trp Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys
115 120 125

Arg Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
130 135 140

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
145 150 155 160

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
165 170 175

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
180 185 190

Ala Val Ile Ser Tyr Asp Gly Ser Asp Lys Tyr Tyr Val Asp Ser Val
195 200 205

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Arg Leu Tyr
210 215 220

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
225 230 235 240

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

Val Thr Val Ser Ser Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe
260 265 270

Ser His Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro
275 280 285

Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu
290 295 300

Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His
305 310 315 320

Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu
325 330 335

Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr
340 345 350

Cys Asn His Arg Asn Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp
355 360 365

Tyr Met Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr
370 375 380

Gln Pro Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val
385 390 395 400

Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn
405 410 415

Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val

420

425

430

Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg

435440445

Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys

450455460

Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg

465470475480

Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys

485490495

Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg

500505510

<210> 125
<211> 1467
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 125
gaaatagtga tgactcagtc cccggccacc ctcagcgtgt cccccgggga gcgagcgacc 60

ctgtcatgca gggcttccca gagtgtcagc tcctgtctca ctggtatca gcaaaagccg 120

gggcaggctc cccgcctct catcttcggg gcatcaacta gggccaccgg cattctgca 180

agattttccg ggtctggcag cggcaccggc ttcacctta ccattagctc tctgcagtct 240

gaggacttcg ccgtttacta ttgtcagcag tatgatactt ggccctttac cttcgtgcc 300

ggaactaagg tggacttcaa gcgcggggggg ggtggatctg gaggtggtgg ctccgggggc 360

ggtggaagcc aggtccagtt ggttgagagc ggcggcggag tggtcagcc cgggaggtcc 420

ttgcggctga gctgtgcagc ctccggtttt actttttcta gctatggaat gcattgggta 480

agacaggctc ccggaagagg cctcgagtgg gtggcgggtca ttagctatga tggatctgat 540

aaatactatg tggactcagt taaggggcgc ttcacaatct caagagacaa tagcaaaaat 600

agactgtacc tgcagatgaa tagtctgcgc gccgaggaca ctgccgtgta ctactgcgcc 660

cgcgagagat acagcggacg ggattactgg ggccagggta ccctcgtaac ggtgtcctcc 720
gctgccgccc ttagcaacag cattatgtac tttctcatt tcgtgccagt ctttctccca 780
gcaaagccca ccactacccc ggccccagg ccgcctactc ctgccccac tatecgtct 840
cagcctctct ccttgccggc cgaggcctgc cggccagccg cagggggcgc cgtacatact 900
cgggggttgg atttcgctg cgacatatat atttgggcc ccctcgccgg cacatgtgga 960
gtgctgctcc tgagtctcgt tataaccctc tattgcaacc atagaaacag atccaaaaga 1020
agccgcctgc tccatagcga ttacatgaat atgactccac gccgccttg cccacaagg 1080
aaacactacc agccttacgc accacctaga gatttcgtg cctatcggag cagggtgaag 1140
ttttccagat ctgcagatgc accagcgtat cagcagggcc agaaccaact gtataacgag 1200
ctcaacctgg gacgcaggga agagtatgac gttttggaca agcgcagagg acgggaccct 1260
gagatgggtg gcaaaccaag acgaaaaaac cccagaggagg gtctctataa tgagctgcag 1320
aaggataaga tggctgaagc ctattctgaa ataggcatga aaggagagcg gagaagggga 1380
aaagggcacg acggtttgta ccagggactc agcactgcta cgaaggatac ttatgacgct 1440
ctccacatgc aagccctgcc acctagg 1467

<210> 126
<211> 489
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 126
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Leu
20 25 30

Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Phe Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Thr Trp Pro Phe
 85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Phe Lys Arg Gly Gly Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu Val
 115 120 125

Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser
 130 135 140

Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp Val
145 150 155 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ser Tyr
 165 170 175

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

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

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu Arg Tyr
 210 215 220

Ser Gly Arg Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
225 230 235 240

Ala Ala Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser His Phe Val Pro
 245 250 255

Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro
 260 265 270

Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu
275 280 285

Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp
290 295 300

Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly
305 310 315 320

Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys Asn His Arg Asn
325 330 335

Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met Asn Met Thr
340 345 350

Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro Tyr Ala Pro
355 360 365

Pro Arg Asp Phe Ala Ala Tyr Arg Ser Arg Val Lys Phe Ser Arg Ser
370 375 380

Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu
385 390 395 400

Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg
405 410 415

Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln
420 425 430

Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr
435 440 445

Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp
450 455 460

Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala
465 470 475 480

Leu His Met Gln Ala Leu Pro Pro Arg
485

<210> 127
<211> 63
<212> DNA
<213> Homo sapiens

<400> 127
atggcactcc ccgtaactgc tctgctgctg ccgttggcat tgctcctgca cgccgcacgc 60

ccg 63

<210> 128
<211> 21
<212> PRT
<213> Homo sapiens

<400> 128
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro
20

<210> 129
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 129
ggcgggtggag gctccggagg gggggggctct ggcggaggggg gctcc 45

<210> 130
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 130
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 131
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 131
gggtctacat ccggctccgg gaagcccgga agtggcgaag gtagtacaaa gggg 54

<210> 132
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 132
Gly Ser Thr Ser Gly Ser Gly Lys Pro Gly Ser Gly Glu Gly Ser Thr
1 5 10 15

Lys Gly

<210> 133
<211> 152
<212> PRT
<213> Homo sapiens

<400> 133
Met Leu Arg Leu Leu Leu Ala Leu Asn Leu Phe Pro Ser Ile Gln Val
1 5 10 15

Thr Gly Asn Lys Ile Leu Val Lys Gln Ser Pro Met Leu Val Ala Tyr
20 25 30

Asp Asn Ala Val Asn Leu Ser Cys Lys Tyr Ser Tyr Asn Leu Phe Ser
35 40 45

Arg Glu Phe Arg Ala Ser Leu His Lys Gly Leu Asp Ser Ala Val Glu
50 55 60

Val Cys Val Val Tyr Gly Asn Tyr Ser Gln Gln Leu Gln Val Tyr Ser

65	70	75	80
Lys Thr Gly Phe Asn Cys Asp Gly Lys Leu Gly Asn Glu Ser Val Thr			
85	90	95	
Phe Tyr Leu Gln Asn Leu Tyr Val Asn Gln Thr Asp Ile Tyr Phe Cys			
100	105	110	
Lys Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser			
115	120	125	
Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro Ser Pro			
130	135	140	
Leu Phe Pro Gly Pro Ser Lys Pro			
145	150		

<210> 134

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<220>

<221> MOD_RES

<222> (2)..(2)

<223> Gly, Phe or Tyr

<220>

<221> MOD_RES

<222> (3)..(3)

<223> Ser or Thr

<220>

<221> MOD_RES

<222> (4)..(4)

<223> Ile, Phe or Leu

<220>

<221> MOD_RES

<222> (5)..(5)

<223> Ser or Thr

<220>

<221> MOD_RES
<222> (6)..(7)
<223> May or may not be present

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Glu, Gly or absent

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Phe, Leu or Tyr

<400> 134
Gly Xaa Xaa Xaa Xaa Ser Gly Xaa Xaa
1 5

<210> 135
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Asp, His, Ser or Tyr

<220>
<221> MOD_RES
<222> (2)..(2)
<223> His, Pro or Tyr

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Asp, Glu or Ser

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Asp or Gly

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Gly or Ser

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Asp, Glu or absent

<400> 135
Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 136
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Glu or Leu

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Arg, Ser or Val

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Arg or Tyr

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Cys, Gly or Ser

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Gly, Ile or absent

<220>
<221> MOD_RES
<222> (6)..(8)
<223> May or may not be present

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Trp, Tyr or absent

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Pro, Ser or absent

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Gly, Tyr or absent

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Phe or Arg

<400> 136
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1 5 10

<210> 137
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
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<222> (1)..(1)
<223> Gln or Arg

<220>
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<222> (5)..(5)
<223> Asp or Ser

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Ile or Val

<220>
<221> MOD_RES
<222> (7)..(8)
<223> Asn or Ser

<220>
<221> MOD_RES
<222> (9)..(9)

<223> Phe, Leu or Tyr

<220>

<221> MOD_RES

<222> (11)..(11)

<223> Asn or Thr

<400> 137

Xaa Ala Ser Gln Xaa Xaa Xaa Xaa Xaa Leu Xaa

1 5 10

<210> 138

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Asp or Gly

<220>

<221> MOD_RES

<222> (4)..(4)

<223> Asn, Ser or Thr

<220>

<221> MOD_RES

<222> (5)..(5)

<223> Leu or Arg

<220>

<221> MOD_RES

<222> (6)..(6)

<223> Ala, Glu or Lys

<220>

<221> MOD_RES

<222> (7)..(7)

<223> Ser or Thr

<400> 138

Xaa Ala Ser Xaa Xaa Xaa Xaa

1 5

<210> 139

<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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<222> (3)..(3)
<223> Ser or Tyr

<220>
<221> MOD_RES
<222> (4)..(4)
<223> Asp, Gly or Tyr

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Asn, Ser or Thr

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Leu, Thr or Tyr

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Phe or Ile

<400> 139
Gln Gln Xaa Xaa Xaa Xaa Pro Xaa Thr
1 5

<210> 140
<211> 265
<212> PRT
<213> Homo sapiens

<400> 140
Met Ser Glu Glu Val Thr Tyr Ala Asp Leu Gln Phe Gln Asn Ser Ser
1 5 10 15

Glu Met Glu Lys Ile Pro Glu Ile Gly Lys Phe Gly Glu Lys Ala Pro
20 25 30

Pro Ala Pro Ser His Val Trp Arg Pro Ala Ala Leu Phe Leu Thr Leu
35 40 45

Leu Cys Leu Leu Leu Ile Gly Leu Gly Val Leu Ala Ser Met Phe
50 55 60

His Val Thr Leu Lys Ile Glu Met Lys Lys Met Asn Lys Leu Gln Asn
65 70 75 80

Ile Ser Glu Glu Leu Gln Arg Asn Ile Ser Leu Gln Leu Met Ser Asn
85 90 95

Met Asn Ile Ser Asn Lys Ile Arg Asn Leu Ser Thr Thr Leu Gln Thr
100 105 110

Ile Ala Thr Lys Leu Cys Arg Glu Leu Tyr Ser Lys Glu Gln Glu His
115 120 125

Lys Cys Lys Pro Cys Pro Arg Arg Trp Ile Trp His Lys Asp Ser Cys
130 135 140

Tyr Phe Leu Ser Asp Asp Val Gln Thr Trp Gln Glu Ser Lys Met Ala
145 150 155 160

Cys Ala Ala Gln Asn Ala Ser Leu Leu Lys Ile Asn Asn Lys Asn Ala
165 170 175

Leu Glu Phe Ile Lys Ser Gln Ser Arg Ser Tyr Asp Tyr Trp Leu Gly
180 185 190

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

Ile Asn Ser Ser Ala Trp Val Ile Arg Asn Ala Pro Asp Leu Asn Asn
210 215 220

Met Tyr Cys Gly Tyr Ile Asn Arg Leu Tyr Val Gln Tyr Tyr His Cys
225 230 235 240

Thr Tyr Lys Lys Arg Met Ile Cys Glu Lys Met Ala Asn Pro Val Gln
245 250 255

Leu Gly Ser Thr Tyr Phe Arg Glu Ala
260 265

<210> 141
<211> 126
<212> DNA
<213> Homo sapiens

<400> 141
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acaacacagg aggaagatgg ctgtagctgc agatttcccg aggaggagga aggtgggtgc 120

gagctg 126

<210> 142
<211> 42
<212> PRT
<213> Homo sapiens

<400> 142
Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe Lys Gln Pro Phe Met
1 5 10 15

Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly Cys Ser Cys Arg Phe
20 25 30

Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu
35 40

<210> 143
<211> 37
<212> PRT
<213> Homo sapiens

<400> 143
Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro Pro Gly Gly
1 5 10 15

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

Thr Leu Ala Lys Ile
35

<210> 144

<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 144
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro
20

<210> 145
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 145
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> 146
<211> 112
<212> PRT
<213> Homo sapiens

<400> 146
Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr Lys Gln Gly
1 5 10 15

Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr
20 25 30

Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys
35 40 45

Pro Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys

50 55 60

Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg
65 70 75 80

Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala
85 90 95

Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
100 105 110

<210> 147
<211> 6762
<212> DNA
<213> Lentivirus

<400> 147
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ccacgttcgc cggctttccc cgtcaagctc taaatcgggg gctccctta gggttccgat 180

ttagtgcttt acggcacctc gacccccaaa aacttgatta gggatgatgt tcacgtagt 240

ggccatcgcc ctgatagacg gtttttcgcc ctttgacgtt ggagtccacg ttctttaata 300

gtggactctt gttccaaact ggaacaacac tcaaccctat ctcggtctat tcttttgatt 360

tataagggat ttgcccatt tcggcctatt ggttaaaaa tgagctgatt taacaaaaat 420

ttaacgcgaa ttttaacaaa atattaacgc ttacaattg ccattcgcca ttcaggctgc 480

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ggggatgtgc tgcaaggcga ttaagttggg taacgccagg gttttccag tcacgacgtt 600

gtaaaacgac ggccagtga ttgtaatac actcactata gggcgaccg gggatggcgc 660

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aacttacggt aaatggccc cctggctgac cgccaacga ccccgccca ttgacgtcaa 780

taatgacgta tgttcccata gtaacgcaa tagggacttt ccattgacgt caatgggtgg 840

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