SEQUENCE LISTING

<110> MEMORIAL SLOAN-KETTERING CANCER CENTER
SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH
MEMORIAL HOSPITAL FOR CANCER AND ALLIED DISEASES
MILLENNIUM PHARMACEUTICALS, INC

<120> CHIMERIC RECEPTORS TARGETING ADGRE2 AND/OR CLEC12A AND USES THEREOF

<130> 087108.0110

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<141>

<150> 63/287,655
<151> 2021-12-09

<150> 63/179,799
<151> 2021-04-26

<160> 151

<170> PatentIn version 3.5

<210> 1
<211> 19
<212> PRT
<213> Artificial Sequence

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

<400> 1
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly
1 5 10 15

Gly Gly Ser

<210> 2
<211> 15
<212> PRT
<213> Artificial Sequence

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

<400> 2

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 3
<211> 24
<212> PRT
<213> Artificial Sequence

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

<400> 3
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Ser Gly Gly Gly Gly Ser
20

<210> 4
<211> 29
<212> PRT
<213> Artificial Sequence

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

<400> 4
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

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

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

<400> 5
Gly Gly Gly Gly Ser
1 5

<210> 6
<211> 10
<212> PRT
<213> Artificial Sequence

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

<400> 6
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10

<210> 7
<211> 235
<212> PRT
<213> Homo sapiens

<400> 7
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 Ser Gln Phe Arg Val Ser Pro Leu Asp Arg Thr
20 25 30

Trp Asn Leu Gly Glu Thr Val Glu Leu Lys Cys Gln Val Leu Leu Ser
35 40 45

Asn Pro Thr Ser Gly Cys Ser Trp Leu Phe Gln Pro Arg Gly Ala Ala
50 55 60

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

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

Thr Phe Val Leu Thr Leu Ser Asp Phe Arg Arg Glu Asn Glu Gly Tyr
100 105 110

Tyr Phe Cys Ser Ala Leu Ser Asn Ser Ile Met Tyr Phe Ser His Phe
115 120 125

Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg
130 135 140

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

Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly
165 170 175

Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr
180 185 190

Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys Asn His
195 200 205

Arg Asn Arg Arg Arg Val Cys Lys Cys Pro Arg Pro Val Val Lys Ser
210 215 220

Gly Asp Lys Pro Ser Leu Ser Ala Arg Tyr Val
225 230 235

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

<400> 8
cccaccacga cgccagcgcc gcgaccacca accccggcgc ccacgatcgc gtcgcagccc 60

ctgtccctgc gcccagaggc gtgccggcca gcggcggggg gcgcagtgca cacgaggggg 120

ctggacttcg cctgtgatat ctacatctgg gcgcccctgg ccgggacttg tggggtcctt 180

ctcctgtcac tggttatcac cctttactgc aac 213

<210> 9
<211> 247
<212> PRT
<213> Mus musculus

<400> 9
Met Ala Ser Pro Leu Thr Arg Phe Leu Ser Leu Asn Leu Leu Leu Met
1 5 10 15

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Gly Glu Ser Ile Ile Leu Gly Ser Gly Glu Ala Lys Pro Gln Ala Pro
            20                  25                  30

Glu Leu Arg Ile Phe Pro Lys Lys Met Asp Ala Glu Leu Gly Gln Lys
        35                  40                  45

Val Asp Leu Val Cys Glu Val Leu Gly Ser Val Ser Gln Gly Cys Ser
    50                  55                  60

Trp Leu Phe Gln Asn Ser Ser Ser Lys Leu Pro Gln Pro Thr Phe Val
65                  70                  75                  80

Val Tyr Met Ala Ser Ser His Asn Lys Ile Thr Trp Asp Glu Lys Leu
                85                  90                  95

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

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

Cys Ser Val Ile Ser Asn Ser Val Met Tyr Phe Ser Ser Val Val Pro
    130                 135                 140

Val Leu Gln Lys Val Asn Ser Thr Thr Thr Lys Pro Val Leu Arg Thr
145                 150                 155                 160

Pro Ser Pro Val His Pro Thr Gly Thr Ser Gln Pro Gln Arg Pro Glu
                165                 170                 175

Asp Cys Arg Pro Arg Gly Ser Val Lys Gly Thr Gly Leu Asp Phe Ala
            180                 185                 190

Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Ile Cys Val Ala Pro
        195                 200                 205

Leu Leu Ser Leu Ile Ile Thr Leu Ile Cys Tyr His Arg Ser Arg Lys
    210                 215                 220

Arg Val Cys Lys Cys Pro Arg Pro Leu Val Arg Gln Glu Gly Lys Pro
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225 230 235 240

Arg Pro Ser Glu Lys Ile Val
245

<210> 10
<211> 220
<212> PRT
<213> Homo sapiens

<400> 10
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 Phe Trp Val Leu Val Val Val Gly
145 150 155 160

```
Gly Val Leu Ala Cys Tyr Ser Leu Leu Val Thr Val Ala Phe Ile Ile
                165                 170                 175


Phe Trp Val Arg Ser Lys Arg Ser Arg Leu Leu His Ser Asp Tyr Met
            180                 185                 190


Asn Met Thr Pro Arg Arg Pro Gly Pro Thr Arg Lys His Tyr Gln Pro
        195                 200                 205


Tyr Ala Pro Pro Arg Asp Phe Ala Ala Tyr Arg Ser
    210                 215                 220


<210> 11
<211> 81
<212> DNA
<213> Homo sapiens

<400> 11
ttttgggtgc tggtggtggt tggtggagtc ctggcttgct atagcttgct agtaacagtg       60

gcctttatta ttttctgggt g                                                 81


<210> 12
<211> 218
<212> PRT
<213> Mus musculus

<400> 12
Met Thr Leu Arg Leu Leu Phe Leu Ala Leu Asn Phe Phe Ser Val Gln
1               5                   10                  15


Val Thr Glu Asn Lys Ile Leu Val Lys Gln Ser Pro Leu Leu Val Val
            20                  25                  30


Asp Ser Asn Glu Val Ser Leu Ser Cys Arg Tyr Ser Tyr Asn Leu Leu
        35                  40                  45


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


Glu Val Cys Val Gly Asn Gly Asn Phe Thr Tyr Gln Pro Gln Phe Arg
65                  70                  75                  80
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Ser Asn Ala Glu Phe Asn Cys Asp Gly Asp Phe Asp Asn Glu Thr Val
85 90 95

Thr Phe Arg Leu Trp Asn Leu His Val Asn His Thr Asp Ile Tyr Phe
100 105 110

Cys Lys Ile Glu Phe Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Arg
115 120 125

Ser Asn Gly Thr Ile Ile His Ile Lys Glu Lys His Leu Cys His Thr
130 135 140

Gln Ser Ser Pro Lys Leu Phe Trp Ala Leu Val Val Val Ala Gly Val
145 150 155 160

Leu Phe Cys Tyr Gly Leu Leu Val Thr Val Ala Leu Cys Val Ile Trp
165 170 175

Thr Asn Ser Arg Arg Asn Arg Leu Leu Gln Ser Asp Tyr Met Asn Met
180 185 190

Thr Pro Arg Arg Pro Gly Leu Thr Arg Lys Pro Tyr Gln Pro Tyr Ala
195 200 205

Pro Ala Arg Asp Phe Ala Ala Tyr Arg Pro
210 215

<210> 13
<211> 117
<212> DNA
<213> Artificial Sequence

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

<400> 13
attgaagtta tgtatcctcc tccttaccta gacaatgaga agagcaatgg aaccattatc 60

catgtgaaag ggaaacacct ttgtccaagt cccctatttc ccggaccttc taagccc 117

<210> 14
<211> 164

<212> PRT
<213> Homo sapiens

<400> 14
Met Lys Trp Lys Ala Leu Phe Thr Ala Ala Ile Leu Gln Ala Gln Leu
1   5   10   15

Pro Ile Thr Glu Ala Gln Ser Phe Gly Leu Leu Asp Pro Lys Leu Cys
            20   25   30

Tyr Leu Leu Asp Gly Ile Leu Phe Ile Tyr Gly Val Ile Leu Thr Ala
        35   40   45

Leu Phe Leu Arg Val Lys Phe Ser Arg Ser Ala Asp Ala Pro Ala Tyr
    50   55   60

Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg
65   70   75   80

Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met
                85   90   95

Gly Gly Lys Pro Gln Arg Arg Lys Asn Pro Gln Glu Gly Leu Tyr Asn
            100   105   110

Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met
        115   120   125

Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp Gly Leu Tyr Gln Gly
    130   135   140

Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala Leu His Met Gln Ala
145   150   155   160

Leu Pro Pro Arg

<210> 15
<211> 22
<212> PRT
<213> Homo sapiens

<400> 15
Gln Asn Gln Leu Tyr Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr
1 5 10 15

Asp Val Leu Asp Lys Arg
20

<210> 16
<211> 66
<212> DNA
<213> Homo sapiens

<400> 16
cagaaccagc tctataacga gctcaatcta ggacgaagag aggagtacga tgttttggac 60

aagaga 66

<210> 17
<211> 22
<212> PRT
<213> Artificial Sequence

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

<400> 17
Gln Asn Gln Leu Phe Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Phe
1 5 10 15

Asp Val Leu Asp Lys Arg
20

<210> 18
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 18
cagaaccagc tctttaacga gctcaatcta ggacgaagag aggagttcga tgttttggac 60

aagaga 66

<210> 19
<211> 23
<212> PRT
<213> Artificial Sequence

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

<400> 19
Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala
1 5 10 15

Tyr Ser Glu Ile Gly Met Lys
20

<210> 20
<211> 69
<212> DNA
<213> Artificial Sequence

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

<400> 20
caggaaggcc tgtacaatga actgcagaaa gataagatgg cggaggccta cagtgagatt 60

gggatgaaa 69

<210> 21
<211> 23
<212> PRT
<213> Artificial Sequence

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

<400> 21
Gln Glu Gly Leu Phe Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala
1 5 10 15

Phe Ser Glu Ile Gly Met Lys
20

<210> 22
<211> 69

<212> DNA
<213> Artificial Sequence

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

<400> 22
caggaaggcc tgttcaatga actgcagaaa gataagatgg cggaggcctt cagtgagatt 60

gggatgaaa 69

<210> 23
<211> 22
<212> PRT
<213> Artificial Sequence

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

<400> 23
His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr
1 5 10 15

Asp Ala Leu His Met Gln
20

<210> 24
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 24
cacgatggcc tttaccaggg tctcagtaca gccaccaagg acacctacga cgcccttcac 60

atgcag 66

<210> 25
<211> 22
<212> PRT
<213> Artificial Sequence

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

peptide

<400> 25
His Asp Gly Leu Phe Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Phe
1 5 10 15

Asp Ala Leu His Met Gln
20

<210> 26
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 26
cacgatggcc ttttccaggg tctcagtaca gccaccaagg acaccttcga cgcccttcac 60

atgcag 66

<210> 27
<211> 112
<212> PRT
<213> Artificial Sequence

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

<400> 27
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 Phe Asn Glu Leu Gln Lys
50 55 60

Asp Lys Met Ala Glu Ala Phe Ser Glu Ile Gly Met Lys Gly Glu Arg

65 70 75 80

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

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

<210> 28
<211> 336
<212> DNA
<213> Artificial Sequence

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

<400> 28
agagtgaagt tcagcaggag cgcagacgcc cccgcgtacc agcagggcca gaaccagctc 60

tataacgagc tcaatctagg acgaagagag gagtacgatg ttttggacaa gagacgtggc 120

cgggaccctg agatgggggg aaagccgaga aggaagaacc ctcaggaagg cctgttcaat 180

gaactgcaga aagataagat ggcggaggcc ttcagtgaga ttgggatgaa aggcgagcgc 240

cggaggggca aggggcacga tggccttttc cagggtctca gtacagccac caaggacacc 300

ttcgacgccc ttcacatgca ggccctgccc cctcgc 336

<210> 29
<211> 123
<212> DNA
<213> Artificial Sequence

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

<400> 29
aggagtaaga ggagcaggct cctgcacagt gactacatga acatgactcc ccgccgcccc 60

gggcccaccc gcaagcatta ccagccctat gccccaccac gcgacttcgc agcctatcgc 120

tcc 123

<210> 30
<211> 255

<212> PRT
<213> Artificial Sequence

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

<400> 30
Met Gly Asn Ser Cys Tyr Asn Ile Val Ala Thr Leu Leu Leu Val Leu
1 5 10 15

Asn Phe Glu Arg Thr Arg Ser Leu Gln Asp Pro Cys Ser Asn Cys Pro
20 25 30

Ala Gly Thr Phe Cys Asp Asn Asn Arg Asn Gln Ile Cys Ser Pro Cys
35 40 45

Pro Pro Asn Ser Phe Ser Ser Ala Gly Gly Gln Arg Thr Cys Asp Ile
50 55 60

Cys Arg Gln Cys Lys Gly Val Phe Arg Thr Arg Lys Glu Cys Ser Ser
65 70 75 80

Thr Ser Asn Ala Glu Cys Asp Cys Thr Pro Gly Phe His Cys Leu Gly
85 90 95

Ala Gly Cys Ser Met Cys Glu Gln Asp Cys Lys Gln Gly Gln Glu Leu
100 105 110

Thr Lys Lys Gly Cys Lys Asp Cys Cys Phe Gly Thr Phe Asn Asp Gln
115 120 125

Lys Arg Gly Ile Cys Arg Pro Trp Thr Asn Cys Ser Leu Asp Gly Lys
130 135 140

Ser Val Leu Val Asn Gly Thr Lys Glu Arg Asp Val Val Cys Gly Pro
145 150 155 160

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

Pro Ala Arg Glu Pro Gly His Ser Pro Gln Ile Ile Ser Phe Phe Leu

180 185 190

Ala Leu Thr Ser Thr Ala Leu Leu Phe Leu Leu Phe Phe Leu Thr Leu
195 200 205

Arg Phe Ser Val Val Lys Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe
210 215 220

Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu Asp Gly
225 230 235 240

Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu Leu
245 250 255

<210> 31
<211> 126
<212> DNA
<213> Artificial Sequence

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

<400> 31
aaacggggca gaaagaagct cctgtatata ttcaaacaac catttatgag accagtacaa 60

actactcaag aggaagatgg ctgtagctgc cgatttccag aagaagaaga aggaggatgt 120

gaactg 126

<210> 32
<211> 823
<212> PRT
<213> Homo sapiens

<400> 32
Met Gly Gly Arg Val Phe Leu Val Phe Leu Ala Phe Cys Val Trp Leu
1 5 10 15

Thr Leu Pro Gly Ala Glu Thr Gln Asp Ser Arg Gly Cys Ala Arg Trp
20 25 30

Cys Pro Gln Asp Ser Ser Cys Val Asn Ala Thr Ala Cys Arg Cys Asn
35 40 45

```
Pro Gly Phe Ser Ser Phe Ser Glu Ile Ile Thr Thr Pro Met Glu Thr
    50                  55                  60

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

Lys Phe Ser Asp Cys Trp Asn Thr Glu Gly Ser Tyr Asp Cys Val Cys
                85                  90                  95

Ser Pro Gly Tyr Glu Pro Val Ser Gly Ala Lys Thr Phe Lys Asn Glu
            100                 105                 110

Ser Glu Asn Thr Cys Gln Asp Val Asp Glu Cys Gln Gln Asn Pro Arg
        115                 120                 125

Leu Cys Lys Ser Tyr Gly Thr Cys Val Asn Thr Leu Gly Ser Tyr Thr
    130                 135                 140

Cys Gln Cys Leu Pro Gly Phe Lys Leu Lys Pro Glu Asp Pro Lys Leu
145                 150                 155                 160

Cys Thr Asp Val Asn Glu Cys Thr Ser Gly Gln Asn Pro Cys His Ser
                165                 170                 175

Ser Thr His Cys Leu Asn Asn Val Gly Ser Tyr Gln Cys Arg Cys Arg
            180                 185                 190

Pro Gly Trp Gln Pro Ile Pro Gly Ser Pro Asn Gly Pro Asn Asn Thr
        195                 200                 205

Val Cys Glu Asp Val Asp Glu Cys Ser Ser Gly Gln His Gln Cys Asp
    210                 215                 220

Ser Ser Thr Val Cys Phe Asn Thr Val Gly Ser Tyr Ser Cys Arg Cys
225                 230                 235                 240

Arg Pro Gly Trp Lys Pro Arg His Gly Ile Pro Asn Asn Gln Lys Asp
                245                 250                 255
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Thr Val Cys Glu Asp Met Thr Phe Ser Thr Trp Thr Pro Pro Pro Gly
            260                 265                 270

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

Gly Arg Asp Tyr Lys Pro Gly Leu Ala Asn Asn Thr Ile Gln Ser Ile
    290                 295                 300

Leu Gln Ala Leu Asp Glu Leu Leu Glu Ala Pro Gly Asp Leu Glu Thr
305                 310                 315                 320

Leu Pro Arg Leu Gln Gln His Cys Val Ala Ser His Leu Leu Asp Gly
                325                 330                 335

Leu Glu Asp Val Leu Arg Gly Leu Ser Lys Asn Leu Ser Asn Gly Leu
            340                 345                 350

Leu Asn Phe Ser Tyr Pro Ala Gly Thr Glu Leu Ser Leu Glu Val Gln
        355                 360                 365

Lys Gln Val Asp Arg Ser Val Thr Leu Arg Gln Asn Gln Ala Val Met
    370                 375                 380

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

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

Ala Pro Leu Val Leu Glu Pro Glu Lys Gln Met Leu Leu His Glu Thr
            420                 425                 430

His Gln Gly Leu Leu Gln Asp Gly Ser Pro Ile Leu Leu Ser Asp Val
        435                 440                 445

Ile Ser Ala Phe Leu Ser Asn Asn Asp Thr Gln Asn Leu Ser Ser Pro
    450                 455                 460

Val Thr Phe Thr Phe Ser His Arg Ser Val Ile Pro Arg Gln Lys Val
```

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465                 470                 475                 480

Leu Cys Val Phe Trp Glu His Gly Gln Asn Gly Cys Gly His Trp Ala
                485                 490                 495

Thr Thr Gly Cys Ser Thr Ile Gly Thr Arg Asp Thr Ser Thr Ile Cys
            500                 505                 510

Arg Cys Thr His Leu Ser Ser Phe Ala Val Leu Met Ala His Tyr Asp
        515                 520                 525

Val Gln Glu Glu Asp Pro Val Leu Thr Val Ile Thr Tyr Met Gly Leu
    530                 535                 540

Ser Val Ser Leu Leu Cys Leu Leu Leu Ala Ala Leu Thr Phe Leu Leu
545                 550                 555                 560

Cys Lys Ala Ile Gln Asn Thr Ser Thr Ser Leu His Leu Gln Leu Ser
                565                 570                 575

Leu Cys Leu Phe Leu Ala His Leu Leu Phe Leu Val Ala Ile Asp Gln
            580                 585                 590

Thr Gly His Lys Val Leu Cys Ser Ile Ile Ala Gly Thr Leu His Tyr
        595                 600                 605

Leu Tyr Leu Ala Thr Leu Thr Trp Met Leu Leu Glu Ala Leu Tyr Leu
    610                 615                 620

Phe Leu Thr Ala Arg Asn Leu Thr Val Val Asn Tyr Ser Ser Ile Asn
625                 630                 635                 640

Arg Phe Met Lys Lys Leu Met Phe Pro Val Gly Tyr Gly Val Pro Ala
                645                 650                 655

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

Pro Ser Arg Cys Trp Leu Gln Pro Glu Lys Gly Phe Ile Trp Gly Phe
        675                 680                 685
```

```
Leu Gly Pro Val Cys Ala Ile Phe Ser Val Asn Leu Val Leu Phe Leu
    690                 695                 700

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

Val Ser Thr Leu Arg Asn Thr Arg Met Leu Ala Phe Lys Ala Thr Ala
                725                 730                 735

Gln Leu Phe Ile Leu Gly Cys Thr Trp Cys Leu Gly Ile Leu Gln Val
            740                 745                 750

Gly Pro Ala Ala Arg Val Met Ala Tyr Leu Phe Thr Ile Ile Asn Ser
        755                 760                 765

Leu Gln Gly Val Phe Ile Phe Leu Val Tyr Cys Leu Leu Ser Gln Gln
    770                 775                 780

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

Thr Glu Ser Glu Met His Thr Leu Ser Ser Ser Ala Lys Ala Asp Thr
                805                 810                 815

Ser Lys Pro Ser Thr Val Asn
            820


<210> 33
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 33
Gly Tyr Thr Phe Thr Asn Tyr Trp
1               5


<210> 34
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<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 34
Val Tyr Pro Gly Asp Gly Asp Thr
1 5

<210> 35
<211> 11
<212> PRT
<213> Artificial Sequence

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

<400> 35
Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr
1 5 10

<210> 36
<211> 5
<212> PRT
<213> Artificial Sequence

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

<400> 36
Ser Ser Val Ser Tyr
1 5

<210> 37
<211> 3
<212> PRT
<213> Artificial Sequence

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

<400> 37
Asp Thr Ser
1

<210> 38
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 38
Gln Gln Trp Ser Ser Asn Pro Leu Thr
1 5

<210> 39
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 39
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Ala Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Ile Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
        115

<210> 40
<211> 106
<212> PRT
<213> Artificial Sequence

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

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

Glu Arg Val Thr Met Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
            20   25   30

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

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

Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser Ser Met Glu Pro Glu
65   70   75   80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
                85   90   95

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

<210> 41
<211> 239
<212> PRT
<213> Artificial Sequence

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

<400> 41

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

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
            20                  25                  30

Trp Met Gln Trp Ile Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
        35                  40                  45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
    50                  55                  60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125

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

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

Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Gln Ser Pro
                165                 170                 175

Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser
        195                 200                 205

Ser Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
```

210 215 220

Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
225 230 235

<210> 42
<211> 717
<212> DNA
<213> Artificial Sequence

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

<400> 42
caagttcagc tccagcagag cggcgccgaa gtggcaaagc ctggagcgtc agtcaagctg 60

tcctgcaaag cgagtggcta tacgttcacg aactactgga tgcagtggat aaagcaggct 120

cccgggcagg gtctggagtg gattggagcc gtctacccag gggacggcga cacccggcac 180

actcaaaagt tcaagggcaa ggccaccctg accgctgaca agagcacaag cacagcgtac 240

atggaggtgt cctctttgag atccgaagat accgctgtgt attattgtgc ccggggcttc 300

actgcatacg ggatggatta ctggggacaa ggcactaccg tgactgtcag ctccgggggt 360

ggaggctcag gcgggggggg ttcaggaggg gggggatctg aaattgtgct gacacagagc 420

cctgccacaa tgtctgctag ccctggcgag cgcgtgacca tgtcttgtag cgccagcagc 480

agcgtgtcct acatgcattg gtatcaacag aagtccggcc agtctcccaa gcggtggatc 540

tacgatacaa gcaagctggc ctccggcgtg cccgccagat tttctggcag cggctctgga 600

acagattaca ccttcaccat ctctagcatg gaacctgagg attttgccac ctactattgc 660

cagcagtggt ccagcaatcc cctgacattt ggaggaggca ccaagctgga aattaag 717

<210> 43
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 43
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Ile Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg Tyr Thr Gln Lys Phe
50 55 60

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

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 44
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 44
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Arg Val Thr Met Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 45
<211> 239
<212> PRT
<213> Artificial Sequence

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

<400> 45
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Ile Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg Tyr Thr Gln Lys Phe
50 55 60

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

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

```
Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125


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


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


Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Leu Ser Pro
                165                 170                 175


Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Asp
            180                 185                 190


Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser
        195                 200                 205


Arg Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
    210                 215                 220


Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
225                 230                 235


<210> 46
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 46
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1               5                   10                  15


Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
            20                  25                  30


Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
        35                  40                  45
```

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg Tyr Thr Gln Lys Phe
50 55 60

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

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 47
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 47
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Arg Val Thr Met Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr

85 90 95

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

<210> 48
<211> 239
<212> PRT
<213> Artificial Sequence

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

<400> 48
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg Tyr Thr Gln Lys Phe
50 55 60

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

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
115 120 125

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

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

Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Leu Ser Pro
165 170 175

Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Asp
180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser
195 200 205

Arg Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
210 215 220

Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
225 230 235

<210> 49
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 49
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

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

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val 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 Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 50
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 50
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

Asp Thr Ser Lys Leu Ala Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

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

Asp Phe Ala Val Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 51
<211> 242

<212> PRT
<213> Artificial Sequence

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

<400> 51
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

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

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val 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 Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

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

Gly Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Leu Thr Gln Ser Pro
130 135 140

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

Ala Ser Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly
165 170 175

Leu Ala Pro Arg Leu Leu Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly

180 185 190

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
195 200 205

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

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

Ile Lys

<210> 52
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 52
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser Thr Val 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 Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 53
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 53
Gln Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 54
<211> 242
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 54
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser Thr Val 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 Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

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

Gly Gly Ser Gly Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro
130 135 140

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

Ala Ser Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly
165 170 175

Leu Ser Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly
180 185 190

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

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

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

Ile Lys

<210> 55
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 55
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Ile Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg Tyr Thr Gln Lys Phe
50 55 60

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

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser

115

<210> 56
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 56
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Ala Ser Pro Gly
1 5 10 15

Glu Arg Val Thr Met Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 57
<211> 239
<212> PRT
<213> Artificial Sequence

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

<400> 57
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

```
Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
            20                  25                  30

Trp Met Gln Trp Ile Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
        35                  40                  45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg Tyr Thr Gln Lys Phe
    50                  55                  60

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

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125

Gly Gly Gly Gly Ser Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu
    130                 135                 140

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

Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro
                165                 170                 175

Arg Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Asp
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser
        195                 200                 205

Arg Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
    210                 215                 220
```

Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
225 230 235

<210> 58
<211> 20
<212> PRT
<213> Artificial Sequence

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

<400> 58
Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
1 5 10 15

Val Thr Asn Ser
20

<210> 59
<211> 20
<212> PRT
<213> Artificial Sequence

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

<400> 59
Met Tyr Ser Met Gln Leu Ala Ser Cys Val Thr Leu Thr Leu Val Leu
1 5 10 15

Leu Val Asn Ser
20

<210> 60
<211> 20
<212> PRT
<213> Artificial Sequence

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

<400> 60
Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro
1 5 10 15

Asp Thr Thr Gly
            20

<210> 61
<211> 20
<212> PRT
<213> Artificial Sequence

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

<400> 61
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1   5   10   15

Gly Ser Thr Gly
            20

<210> 62
<211> 21
<212> PRT
<213> Artificial Sequence

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

<400> 62
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> 63
<211> 18
<212> PRT
<213> Artificial Sequence

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

<400> 63
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu

1 5 10 15

His Ala

<210> 64
<211> 16
<212> PRT
<213> Artificial Sequence

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

<400> 64
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Ser Ser Ala Tyr Ser
1 5 10 15

<210> 65
<211> 30
<212> PRT
<213> Artificial Sequence

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

<400> 65
Met Asp Ser Lys Gly Ser Ser Gln Lys Gly Ser Arg Leu Leu Leu Leu
1 5 10 15

Leu Val Val Ser Asn Leu Leu Leu Cys Gln Gly Val Val Ser
20 25 30

<210> 66
<211> 462
<212> PRT
<213> Artificial Sequence

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

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

```
Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
            20                  25                  30

Trp Met Gln Trp Ile Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
        35                  40                  45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
    50                  55                  60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125

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

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

Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Gln Ser Pro
                165                 170                 175

Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser
        195                 200                 205

Ser Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
    210                 215                 220

Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
```

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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 Phe Asn Glu Leu Gln Lys Asp Lys
                405                 410                 415

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

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

Asp Thr Phe Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
450 455 460

<210> 67
<211> 1386
<212> DNA
<213> Artificial Sequence

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

<400> 67
caagttcagc tccagcagag cggcgccgaa gtggcaaagc ctggagcgtc agtcaagctg 60

tcctgcaaag cgagtggcta tacgttcacg aactactgga tgcagtggat aaagcaggct 120

cccgggcagg gtctggagtg gattggagcc gtctacccag gggacggcga cacccggcac 180

actcaaaagt tcaagggcaa ggccaccctg accgctgaca agagcacaag cacagcgtac 240

atggaggtgt cctctttgag atccgaagat accgctgtgt attattgtgc ccggggcttc 300

actgcatacg ggatggatta ctggggacaa ggcactaccg tgactgtcag ctccgggggt 360

ggaggctcag gcgggggggg ttcaggaggg gggggatctg aaattgtgct gacacagagc 420

cctgccacaa tgtctgctag ccctggcgag cgcgtgacca tgtcttgtag cgccagcagc 480

agcgtgtcct acatgcattg gtatcaacag aagtccggcc agtctcccaa gcggtggatc 540

tacgatacaa gcaagctggc ctccggcgtg cccgccagat tttctggcag cggctctgga 600

acagattaca ccttcaccat ctctagcatg gaacctgagg attttgccac ctactattgc 660

cagcagtggt ccagcaatcc cctgacattt ggaggaggca ccaagctgga aattaagaga 720

gcggccgcaa ttgaagttat gtatcctcct ccttacctag acaatgagaa gagcaatgga 780

accattatcc atgtgaaagg gaaacacctt tgtccaagtc ccctatttcc cggaccttct 840

aagccctttt gggtgctggt ggtggttggt ggagtcctgg cttgctatag cttgctagta 900

acagtggcct ttattatttt ctgggtgagg agtaagagga gcaggctcct gcacagtgac 960

tacatgaaca tgactccccg ccgccccggg cccacccgca agcattacca gccctatgcc 1020

ccaccacgcg acttcgcagc ctatcgctcc agagtgaagt tcagcaggag cgcagacgcc 1080

cccgcgtacc agcagggcca gaaccagctc tataacgagc tcaatctagg acgaagagag 1140

gagtacgatg ttttggacaa gagacgtggc cgggaccctg agatgggggg aaagccgaga 1200

aggaagaacc ctcaggaagg cctgttcaat gaactgcaga aagataagat ggcggaggcc 1260

ttcagtgaga ttgggatgaa aggcgagcgc cggaggggca aggggcacga tggccttttc 1320

cagggtctca gtacagccac caaggacacc ttcgacgccc ttcacatgca ggccctgccc 1380

cctcgc 1386

<210> 68
<211> 265
<212> PRT
<213> Homo sapiens

<400> 68
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 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> 69
<211> 10
<212> PRT
<213> Artificial Sequence

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

<400> 69
Gly Gly Ser Ile Ser Ser Ser Thr Tyr Tyr
1 5 10

<210> 70
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 70
Thr His Tyr Arg Gly Ser Thr
1 5

<210> 71
<211> 11
<212> PRT
<213> Artificial Sequence

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

<400> 71
Ala Arg Glu Leu Thr Gly Glu Val Phe Asp Tyr
1 5 10

<210> 72
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 72
Gln Ser Ile Ser Ser Tyr
1 5

<210> 73
<211> 3
<212> PRT
<213> Artificial Sequence

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

<400> 73
Ala Ala Ser
1

<210> 74
<211> 9
<212> PRT

<213> Artificial Sequence

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

<400> 74
Gln Gln Ser Tyr Ser Thr Pro Phe Thr
1 5

<210> 75
<211> 119
<212> PRT
<213> Artificial Sequence

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

<400> 75
Gln Leu 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 Ser
20 25 30

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

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

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

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

Cys Ala Arg Glu Leu Thr Gly Glu Val Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
115

<210> 76
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 76
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

Tyr Ala Ala Ser Ser Leu Gln 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 Gln Pro
65 70 75 80

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

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

<210> 77
<211> 357
<212> DNA
<213> Artificial Sequence

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

<400> 77
cagctccagc tccaagagtc agggccaggt ctcgtgaaac cgagtgagac cctgtccctg 60

acctgcacag tgagtggtgg atcaatctca agctctacct actattgggg gtggattcgg 120

cagccccta gaaaggggct tgagtggatt ggcagcactc attatcgagg atctacctat 180

tataatcctt ctctgaaaag cagagttacc atctctgtgg atacgtccaa aaatcagttc 240

agtctgaagg tatcatccgt gactgctgcc gacacggccg tgtactattg cgcgagggag 300

ctgacaggtg aggtctttga ctactggggc cagggcacac tcgtgaccgt gtcttct 357

<210> 78
<211> 321
<212> DNA
<213> Artificial Sequence

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

<400> 78
gacatccaga tgacgcagtc cccttccagc ttgtccgcat ctgtgggtga tagggtcacg 60

attacatgta gggctagtca gagtatttct agttacctga attggtacca gcagaaacca 120

ggcaaggcac caaagttgct catctatgcg gcctcctctc tgcaatctgg cgtgccgtcc 180

agatttagtg gatcaggctc cggaaccgat ttcaccctta cgatctcctc acttcaaccc 240

gaggatttcg ccacatatta ctgtcaacaa agctattcta caccgttcac cttcggaccg 300

gggacaaaag tggatattaa a 321

<210> 79
<211> 244
<212> PRT
<213> Artificial Sequence

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

<400> 79
Gln Leu 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 Ser
20 25 30

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

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

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

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

Cys Ala Arg Glu Leu Thr Gly Glu Val Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110

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

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

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

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

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

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

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

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

Val Asp Ile Lys
```

<210> 80

<211> 732
<212> DNA
<213> Artificial Sequence

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

<400> 80
cagctccagc tccaagagtc agggccaggt ctcgtgaaac cgagtgagac cctgtccctg 60

acctgcacag tgagtggtgg atcaatctca agctctacct actattgggg gtggattcgg 120

cagcccccta gaaaggggct tgagtggatt ggcagcactc attatcgagg atctacctat 180

tataatcctt ctctgaaaag cagagttacc atctctgtgg atacgtccaa aaatcagttc 240

agtctgaagg tatcatccgt gactgctgcc gacacggccg tgtactattg cgcgagggag 300

ctgacaggtg aggtctttga ctactggggc cagggcacac tcgtgaccgt gtcttctgcc 360

tcaacaggag ggggtgggag tggaggcggt ggatcagggg gaggagggag tgacatccag 420

atgacgcagt ccccttccag cttgtccgca tctgtgggtg atagggtcac gattacatgt 480

agggctagtc agagtatttc tagttacctg aattggtacc agcagaaacc aggcaaggca 540

ccaaagttgc tcatctatgc ggcctcctct ctgcaatctg gcgtgccgtc cagatttagt 600

ggatcaggct ccggaaccga tttcaccctt acgatctcct cacttcaacc cgaggatttc 660

gccacatatt actgtcaaca aagctattct acaccgttca ccttcggacc ggggacaaaa 720

gtggatatta aa 732

<210> 81
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 81
Gly Gly Ser Ile Ser Thr Tyr Tyr
1 5

<210> 82
<211> 7
<212> PRT

<213> Artificial Sequence

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

<400> 82
Ile Tyr Tyr Ser Gly Ser Thr
1 5

<210> 83
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 83
Ala Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr
1 5 10

<210> 84
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 84
Gln Gly Ile Arg Tyr Asp
1 5

<210> 85
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 85
Leu Gln Asp Tyr Asn Phe Pro Arg Thr
1 5

<210> 86
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 86
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 Thr 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 Lys Tyr Asn Pro Ser Leu Lys
50 55 60

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

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

Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 87
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 87
Ala Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

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1               5                   10                  15

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

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

Tyr Ala Ala Ser Ser Leu Gln 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 Gln Pro
65                  70                  75                  80

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

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


<210> 88
<211> 245
<212> PRT
<213> Artificial Sequence

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

<400> 88
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 Thr 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 Lys Tyr Asn Pro Ser Leu Lys
    50                  55                  60
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Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Leu Phe Ser Leu
65                  70                  75                  80

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

Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr Trp Gly Gln
            100                 105                 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Ile Gln Met Thr Gln
    130                 135                 140

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

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

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

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

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

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

Lys Val Glu Ile Lys
                245
```

<210> 89
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 89
Gly Phe Thr Phe Ser Ser Tyr Gly
1 5

<210> 90
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 90
Ile Ser Tyr Asp Gly Ser Asp Lys
1 5

<210> 91
<211> 10
<212> PRT
<213> Artificial Sequence

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

<400> 91
Ala Arg Asp Lys Gly Tyr Tyr Phe Asp Tyr
1 5 10

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

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

<400> 92
Gln Ser Val Gly Asn Arg Tyr
1 5

<210> 93
<211> 3

<212> PRT
<213> Artificial Sequence

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

<400> 93
Gly Ala Ser
1

<210> 94
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 94
Gln Gln Asp Tyr Asn Leu Pro Leu Thr
1 5

<210> 95
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 95
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 Thr Leu Tyr

65 70 75 80

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

Ala Arg Asp Lys Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 96
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 96
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Asn Arg
20 25 30

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

Ile Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser
50 55 60

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

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Asp Tyr Asn Leu Pro
85 90 95

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

<210> 97
<211> 243
<212> PRT
<213> Artificial Sequence

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

<400> 97
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 Thr Leu Tyr
65 70 75 80

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

Ala Arg Asp Lys Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser Ala Ser Thr Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Met Thr Gln Ser Pro Ala
130 135 140

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

Ser Gln Ser Val Gly Asn Arg Tyr Leu Ser Trp Tyr Gln Gln Lys Pro
165 170 175

Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Thr Arg Ala Thr
180 185 190

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
195 200 205

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

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

Glu Ile Lys

<210> 98
<211> 10
<212> PRT
<213> Artificial Sequence

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

<400> 98
Ala Arg Asp Gly Ser Arg Tyr Phe Asp Tyr
1 5 10

<210> 99
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 99
Gln Ser Val His Ser Lys Tyr
1 5

<210> 100
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 100
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 Ser Ala Asp Ser Val
50 55 60

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

Val Thr Val Ser Ser
115

<210> 101
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 101
Glu Ile Phe Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val His Ser Lys

20 25 30

Tyr Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Ser Leu Leu
35 40 45

Ile Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser
50 55 60

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

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Asp Tyr Asn Leu Pro
85 90 95

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

<210> 102
<211> 243
<212> PRT
<213> Artificial Sequence

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

<400> 102
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 Ser Ala Asp Ser Val
50 55 60

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

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

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

Val Thr Val Ser Ser Ala Ser Thr Gly Gly Gly Gly Ser Gly Gly Gly
        115                 120                 125

Gly Ser Gly Gly Gly Gly Ser Glu Ile Phe Met Thr Gln Ser Pro Ala
    130                 135                 140

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

Ser Gln Ser Val His Ser Lys Tyr Leu Ser Trp Tyr Gln Gln Lys Pro
                165                 170                 175

Gly Gln Ala Pro Ser Leu Leu Ile Tyr Gly Ala Ser Thr Arg Ala Thr
            180                 185                 190

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
        195                 200                 205

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

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

Glu Ile Lys
```

<210> 103
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 103
Ile Tyr Phe Ser Gly Ser Thr
1   5

<210> 104
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 104
Gln Gly Ile Arg Asn Asp
1   5

<210> 105
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 105
Leu Gln Asp Tyr Asn Tyr Pro Arg Thr
1   5

<210> 106
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 106
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 Thr Tyr
            20   25   30

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

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

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

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

Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 107
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 107
Ala 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 Gly Ile Arg Asn Asp
20 25 30

Leu Gly Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Ser Ala Thr Tyr Tyr Cys Leu Gln Asp Tyr Asn Tyr Pro Arg

85 90 95

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

<210> 108
<211> 245
<212> PRT
<213> Artificial Sequence

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

<400> 108
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 Thr Tyr
20 25 30

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

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

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

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

Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr Trp Gly Gln
100 105 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Ile Gln Met Thr Gln
130 135 140

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


Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp Leu Gly Trp Phe Gln Gln
                165                 170                 175


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


Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Tyr
        195                 200                 205


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


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


Lys Val Glu Ile Lys
                245


<210> 109
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 109
Gly Gly Ser Ile Ser Thr Asp Tyr
1               5


<210> 110
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 110
Gln Asp Ile Arg Asn Asp
```

1 5

<210> 111
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 111
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 Thr Asp
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 Phe Ser Gly Ser Thr Lys 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 Ala
85 90 95

Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 112
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 112
Ala 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 Asp Ile Arg Asn Asp
20 25 30

Leu Gly Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Ser Leu Gln 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 Gln Pro
65 70 75 80

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

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

<210> 113
<211> 245
<212> PRT
<213> Artificial Sequence

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

<400> 113
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 Thr Asp
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 Phe Ser Gly Ser Thr Lys 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 Ala
                85                  90                  95

Arg Glu Asp Tyr Tyr Gly Ser Gly Ser Pro Phe Asp Tyr Trp Gly Gln
            100                 105                 110

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

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Ile Gln Met Thr Gln
    130                 135                 140

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

Cys Arg Ala Ser Gln Asp Ile Arg Asn Asp Leu Gly Trp Phe Gln Gln
                165                 170                 175

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

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

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

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

Lys Val Glu Ile Lys
                245

<210> 114
<211> 10
```

<212> PRT
<213> Artificial Sequence

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

<400> 114
Ala Arg Asp Gly Gln Phe Tyr Phe Asp Tyr
1 5 10

<210> 115
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 115
Gln Ser Val Thr Ser Arg Tyr
1 5

<210> 116
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 116
Gln Gln Asp Tyr Asn Leu Pro Leu Thr
1 5

<210> 117
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 117
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 Glu Gly Leu Glu Trp Val
35 40 45

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

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

Val Thr Val Ser Ser
115

<210> 118
<211> 108
<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 Leu Ser Pro Gly
1 5 10 15

Glu Ser Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Ser Arg
20 25 30

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

Met Tyr Gly Ala Ser Thr Arg Pro Thr Gly Ile Pro Ala Arg Phe Ser
50 55 60

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

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Asp Tyr Asn Leu Pro
85 90 95

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

<210> 119
<211> 243
<212> PRT
<213> Artificial Sequence

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

<400> 119
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 Glu Gly Leu Glu Trp Val
35 40 45

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

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

Val Thr Val Ser Ser Ala Ser Thr Gly Gly Gly Gly Ser Gly Gly Gly

115 120 125

Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Met Thr Gln Ser Pro Ala
130 135 140

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

Ser Gln Ser Val Thr Ser Arg Tyr Leu Ser Trp Tyr Gln Gln Lys Pro
165 170 175

Gly Gln Ala Pro Arg Leu Leu Met Tyr Gly Ala Ser Thr Arg Pro Thr
180 185 190

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
195 200 205

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

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

Glu Ile Lys

<210> 120
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 120
Gly Phe Thr Phe Ser Asn Tyr Gly
1 5

<210> 121
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 121
Ile Ser Tyr Asp Gly Ser Asp Lys
1 5

<210> 122
<211> 11
<212> PRT
<213> Artificial Sequence

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

<400> 122
Ala Arg Asp Ser Gly Arg Tyr Phe Phe Asp Tyr
1 5 10

<210> 123
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 123
Gln Ser Val Ser Ser Arg Ser
1 5

<210> 124
<211> 3
<212> PRT
<213> Artificial Sequence

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

<400> 124
Gly Pro Ser
1

<210> 125

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

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

<400> 125
His Gln Asp Tyr Asn Leu Pro Leu Thr
1 5

<210> 126
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 126
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 Asn 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 Ser Tyr Lys Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ala Arg Asp Asn Ser Lys Asn Thr 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 Asp Ser Gly Arg Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 127
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 127
Glu Ile Ile Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Arg
20 25 30

Ser Leu Ser Trp Tyr Gln His Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45

Ile Tyr Gly Pro Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser
50 55 60

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

Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Asp Tyr Asn Leu Pro
85 90 95

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

<210> 128
<211> 244
<212> PRT
<213> Artificial Sequence

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

<400> 128
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 Asn 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 Ser Tyr Lys Asp Ser Val
    50                  55                  60

Lys Gly Arg Phe Thr Ile Ala Arg Asp Asn Ser Lys Asn Thr 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 Asp Ser Gly Arg Tyr Phe Phe Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

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

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

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

Ala Ser Gln Ser Val Ser Ser Arg Ser Leu Ser Trp Tyr Gln His Lys
                165                 170                 175

Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Pro Ser Thr Arg Ala
            180                 185                 190

Thr Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
        195                 200                 205

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

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

Val Glu Ile Lys

<210> 129
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 129
Gly Phe Thr Phe Ser Lys Tyr Gly
1 5

<210> 130
<211> 8
<212> PRT
<213> Artificial Sequence

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

<400> 130
Ile Trp Tyr Asp Gly Ser Ile Lys
1 5

<210> 131
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 131
Ala Arg Gly Ser Leu Trp Phe Gly Glu Phe Tyr Phe Asp Tyr
1 5 10

<210> 132
<211> 6
<212> PRT

<213> Artificial Sequence

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

<400> 132
Gln Gly Ile Ser Ser Ala
1 5

<210> 133
<211> 3
<212> PRT
<213> Artificial Sequence

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

<400> 133
Asp Ala Ser
1

<210> 134
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 134
Gln Gln Phe Asn Asn Tyr Pro Arg Thr
1 5

<210> 135
<211> 121
<212> PRT
<213> Artificial Sequence

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

<400> 135
Gln Val Lys 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 Lys Tyr
            20   25   30

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

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

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

Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 136
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 136
Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1   5   10   15

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

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

Tyr Asp Ala Ser Ser Leu Glu 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 Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Phe Asn Asn Tyr Pro Arg
85 90 95

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

<210> 137
<211> 246
<212> PRT
<213> Artificial Sequence

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

<400> 137
Gln Val Lys 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 Lys Tyr
20 25 30

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

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

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

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

```
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Ala Ile Gln Leu Thr
    130                 135                 140

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

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

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

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

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

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

Thr Lys Val Glu Ile Lys
                245
```

<210> 138
<211> 361
<212> PRT
<213> Artificial Sequence

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

<400> 138

```
Gln Leu 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 Ser
            20                  25                  30

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

```
        35                  40                  45

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

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

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

Cys Ala Arg Glu Leu Thr Gly Glu Val Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110

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

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

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

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

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

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

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

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

Val Asp Ile Lys Arg Ala Ala Ala Pro Thr Thr Thr Pro Ala Pro Arg
                245                 250                 255
```

```
Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg
            260                 265                 270

Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly
        275                 280                 285

Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr
    290                 295                 300

Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu Tyr Cys Asn Lys
305                 310                 315                 320

Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe Lys Gln Pro Phe Met Arg
                325                 330                 335

Pro Val Gln Thr Thr Gln Glu Glu Asp Gly Cys Ser Cys Arg Phe Pro
            340                 345                 350

Glu Glu Glu Glu Gly Gly Cys Glu Leu
        355                 360
```

<210> 139
<211> 1083
<212> DNA
<213> Artificial Sequence

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

<400> 139
cagctccagc tccaagagtc agggccaggt ctcgtgaaac cgagtgagac cctgtccctg 60

acctgcacag tgagtggtgg atcaatctca agctctacct actattgggg gtggattcgg 120

cagcccccta gaaaggggct tgagtggatt ggcagcactc attatcgagg atctacctat 180

tataatcctt ctctgaaaag cagagttacc atctctgtgg atacgtccaa aaatcagttc 240

agtctgaagg tatcatccgt gactgctgcc gacacggccg tgtactattg cgcgagggag 300

ctgacaggtg aggtctttga ctactggggc cagggcacac tcgtgaccgt gtcttctgcc 360

tcaacaggag ggggtgggag tggaggcggt ggatcagggg gaggagggag tgacatccag 420

atgacgcagt ccccttccag cttgtccgca tctgtgggtg atagggtcac gattacatgt 480

agggctagtc agagtatttc tagttacctg aattggtacc agcagaaacc aggcaaggca 540

ccaaagttgc tcatctatgc ggcctcctct ctgcaatctg gcgtgccgtc cagatttagt 600

ggatcaggct ccggaaccga tttcaccctt acgatctcct cacttcaacc cgaggatttc 660

gccacatatt actgtcaaca aagctattct acaccgttca ccttcggacc ggggacaaaa 720

gtggatatta aacgggcggc cgcccccacc acgacgccag cgccgcgacc accaaccccg 780

gcgcccacga tcgcgtcgca gcccctgtcc ctgcgcccag aggcgtgccg gccagcggcg 840

gggggcgcag tgcacacgag ggggctggac ttcgcctgtg atatctacat ctgggcgccc 900

ctggccggga cttgtggggt ccttctcctg tcactggtta tcacccttta ctgcaacaaa 960

cggggcagaa agaagctcct gtatatattc aaacaaccat ttatgagacc agtacaaact 1020

actcaagagg aagatggctg tagctgccga tttccagaag aagaagaagg aggatgtgaa 1080

ctg 1083

<210> 140
<211> 881
<212> PRT
<213> Artificial Sequence

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

<400> 140
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

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

Gly Ala Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
35 40 45

Asn Tyr Trp Met Gln Trp Ile Lys Gln Ala Pro Gly Gln Gly Leu Glu
50 55 60

Trp Ile Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln

```
65                  70                  75                  80

Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr
                85                  90                  95

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

Tyr Cys Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln
        115                 120                 125

Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
    130                 135                 140

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

Thr Met Ser Ala Ser Pro Gly Glu Arg Val Thr Met Ser Cys Ser Ala
                165                 170                 175

Ser Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Gln
            180                 185                 190

Ser Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val
        195                 200                 205

Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr
    210                 215                 220

Ile Ser Ser Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
225                 230                 235                 240

Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
                245                 250                 255

Lys Arg Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp
            260                 265                 270

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

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

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

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

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

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

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

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

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

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

Asp Lys Met Ala Glu Ala Phe Ser Glu Ile Gly Met Lys Gly Glu Arg
        435                 440                 445

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

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

Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val
                485                 490                 495
```

```
Glu Glu Asn Pro Gly Pro Met Ala Leu Pro Val Thr Ala Leu Leu Leu
            500                 505                 510

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

Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val
    530                 535                 540

Ser Gly Gly Ser Ile Ser Ser Ser Thr Tyr Tyr Trp Gly Trp Ile Arg
545                 550                 555                 560

Gln Pro Pro Arg Lys Gly Leu Glu Trp Ile Gly Ser Thr His Tyr Arg
                565                 570                 575

Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys Ser Arg Val Thr Ile Ser
            580                 585                 590

Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Val Ser Ser Val Thr
        595                 600                 605

Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Glu Leu Thr Gly Glu
    610                 615                 620

Val Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
625                 630                 635                 640

Ser Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
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Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val
            660                 665                 670

Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser
        675                 680                 685

Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu
    690                 695                 700
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Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser
705 710 715 720

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln
725 730 735

Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro
740 745 750

Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Ala Ala Ala
755 760 765

Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile
770 775 780

Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala
785 790 795 800

Gly Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr
805 810 815

Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu
820 825 830

Val Ile Thr Leu Tyr Cys Asn Lys Arg Gly Arg Lys Lys Leu Leu Tyr
835 840 845

Ile Phe Lys Gln Pro Phe Met Arg Pro Val Gln Thr Thr Gln Glu Glu
850 855 860

Asp Gly Cys Ser Cys Arg Phe Pro Glu Glu Glu Glu Gly Gly Cys Glu
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Leu

<210> 141
<211> 8940
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<213> Artificial Sequence

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

<400> 141
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gtaacgccat tttgcaaggc atggaaaaat acataactga gaatagagaa gttcagatca 240

aggtcaggaa cagatggaac agctgaatat gggccaaaca ggatatctgt ggtaagcagt 300

tcctgccccg gctcagggcc aagaacagat ggaacagctg aatatgggcc aaacaggata 360

tctgtggtaa gcagttcctg ccccggctca gggccaagaa cagatggtcc ccagatgcgg 420

tccagccctc agcagtttct agagaaccat cagatgtttc cagggtgccc caaggacctg 480

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<211> 22
<212> PRT
<213> Artificial Sequence

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

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1 5 10 15

Glu Glu Asn Pro Gly Pro
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<210> 143
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 143
ggaagcggag ctactaactt cagcctgctg aagcaggctg gagacgtgga ggagaaccct 60

ggaccc 66

<210> 144
<211> 354
<212> DNA
<213> Artificial Sequence

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

<400> 144
caagttcagc tccagcagag cggcgccgaa gtggcaaagc ctggagcgtc agtcaagctg 60

tcctgcaaag cgagtggcta tacgttcacg aactactgga tgcagtggat aaagcaggct 120

cccgggcagg gtctggagtg gattggagcc gtctacccag gggacggcga cacccggcac 180

actcaaaagt tcaagggcaa ggccaccctg accgctgaca agagcacaag cacagcgtac 240

atggaggtgt cctctttgag atccgaagat accgctgtgt attattgtgc ccggggcttc 300

actgcatacg ggatggatta ctggggacaa ggcactaccg tgactgtcag ctcc 354

<210> 145
<211> 318
<212> DNA
<213> Artificial Sequence

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

<400> 145
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atgtcttgta gcgccagcag cagcgtgtcc tacatgcatt ggtatcaaca gaagtccggc 120

cagtctccca agcggtggat ctacgataca agcaagctgg cctccggcgt gcccgccaga 180

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gattttgcca cctactattg ccagcagtgg tccagcaatc ccctgacatt tggaggaggc 300

accaagctgg aaattaag 318

<210> 146
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 146
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Ala Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Trp Met Gln Trp Ile Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
100 105 110

Thr Val Thr Val Ser Ser
115

<210> 147
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 147
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Arg Val Thr Met Ser Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30

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

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

Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser Ser Met Glu Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

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

<210> 148
<211> 239
<212> PRT
<213> Artificial Sequence

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

<400> 148
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Ala Lys Pro Gly Ala
1 5 10 15

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Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
            20                  25                  30

Trp Met Gln Trp Ile Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
        35                  40                  45

Gly Ala Val Tyr Pro Gly Asp Gly Asp Thr Arg His Thr Gln Lys Phe
    50                  55                  60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

Ala Arg Gly Phe Thr Ala Tyr Gly Met Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125

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

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

Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Gln Ser Pro
                165                 170                 175

Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala
            180                 185                 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser
        195                 200                 205

Ser Met Glu Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Ser
    210                 215                 220

Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
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225 230 235

<210> 149
<211> 18
<212> PRT
<213> Artificial Sequence

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

<400> 149
Ala Ser Thr Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
1 5 10 15

Gly Ser

<210> 150
<211> 4
<212> PRT
<213> Artificial Sequence

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

<400> 150
Arg Ala Ala Ala
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<210> 151
<211> 9
<212> PRT
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic peptide

<400> 151
Gln Gln Asp Tyr Asn Leu Pro Ile Thr
1 5