SEQUENCE LISTING

<110> Pfizer Inc.
HO, Wei-Hsien
LIU, Shu-Hui
PERNASETTI, Flavia Mercer

<120> ANTI-CXCR4 ANTIBODIES AND ANTIBODY-DRUG CONJUGATES

<130> PC71971A

<150> 61/861,706
<151> 2013-08-02

<160> 173

<170> PatentIn version 3.5

<210> 1
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 1

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


Gly Gly Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Thr
            20                  25                  30


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


Trp Leu Gly Phe Ile Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Tyr
    50                  55                  60


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


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


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


Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 2
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 2
gaggtaaagt tggtggagtc tggaggaggc ttggtacagc ctgggggttc tctgagactc 60

tcctgtgcaa cttctgggtt caccttcact gattactaca tgagttgggt ccgccagcct 120

ccaggaaagg cacttgagtg gttgggtttt attagaaaca aagctaatgg ttacacaaca 180

gagtacagtg catctgtgaa gggtcggttc accatctcca gagataattc ccaaagcatc 240

ctctatcttc aaatgaacac cctgagagct gaggacagtg ccacttatta ctgtgcaaga 300

gatctcccgg ggtttgctta ctggggccaa gggactctgg tcaccgtctc ctca 354

<210> 3
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 3

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Thr Val Ser Ala Gly
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Tyr Asn Ser
20 25 30

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

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 4
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 4
gacatagtta tgtcgcagtc tccatcctcc ctgactgtgt cagcaggaga gaaggtcact 60

atgagctgca aatccagtca gagtctgtac aacagtagaa cccgaaagaa ctacttggct 120

tggtaccagc agaaaccagg gcagtctcct aaactgctga tctactgggc atccgctagg 180

gaatctgggg tccctggtcg cttcacaggc agtggatctg ggacagattt cgctctcacc 240

atcagcagtg tgcaggctga agacctggca gtttattact gcaagcaatc ttataatctt 300

cggacgttcg gtggaggcac caagctggag atcaaa 336

<210> 5
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 5

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Ala
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 6
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 6
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgaaata aagcgaacgg ctataccacc 180

gaatatagcg catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 7
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 7

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Tyr Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 8
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 8
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attaattgca aaagctccca gagcctgtat aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gtacaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 9
<211> 121
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 9

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

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

Asn Ile Tyr Trp Val Lys Gln Ser His Gly Gln Ser Leu Glu Trp Ile
        35                  40                  45

Gly Tyr Ile Asp Pro Tyr Asn Gly Gly Thr Arg Tyr Asn Gln Lys Phe
    50                  55                  60

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

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

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

Gln Gly Thr Ser Val Thr Val Ser Ser
        115                 120
```

<210> 10
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 10

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tcctgcaagg cttctggtta ctcattcact gactataata tatactgggt gaagcagagc      120

catggacaga gccttgagtg gattggatat attgatcctt acaatggtgg gaccaggtat      180

aaccagaagt tcaagggcaa ggccacattg actgttgaca agtcctccag cacagccttc      240

atgcatctca acagcctgac atctgaggac tctgcagtct atttttgtgc aagaacctac      300

ggtagtcggt acgttggggc tatggactac tggggtcaag gaacctcggt caccgtctcc      360

tca                                                                    363
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<210> 11
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 11

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Pro Ala Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
85 90 95

Leu Glu Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

<210> 12
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 12
gatatcgtta tgacgcaggc tgcaccctct gtacctgtca ctcctggaga gtcagtatcc 60

atctcctgca ggtctagtaa gagtctcctg catagtaatg gcaacactta cttatattgg 120

ttcctgcaga ggccaggcca gtctcctcag ctcctaatat atcggatgtc caaccctgcc 180

tcaggagtcc cagacaggtt cagtggcagt gggtcaggaa ctgctttcac actgagaatc 240

agtcgagtgg aggctgagga tgtgggtgtt tattactgta tgcaacatct agaatatccg 300

ctcacgttcg gtgctgggac caagctggag ctgaaa 336

<210> 13
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 13

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

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

```
Asn Ile Tyr Trp Val Arg Gln Ala Thr Gly Gln Gly Leu Glu Trp Met
        35                  40                  45

Gly Tyr Ile Asp Pro Tyr Asn Gly Gly Thr Arg Tyr Asn Gln Lys Phe
    50                  55                  60

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

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

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

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

<210> 14
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 14

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caggttcagc tggtgcagag cggcgccgag gtgaagaaac caggcgccag cgtgaaagtg       60

tcctgcaagg cgagtggata taccttcacc gattacaata tttattgggt tcgccaggcc      120

accgggcagg gcctggagtg gatgggctac attgatccat ataacggtgg cacccgctac      180

aaccagaagt ttaaaggccg cgtgaccatg acccgcaata cctcgatctc caccgcctat      240

atggaactga gcagcttacg ctctgaagat acggccgtgt actactgtgc ccgcacctac      300

gggtctcgct acgttggcgc gatggattat tggggtcagg gcaccctggt caccgtctcc      360

tca                                                                    363
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<210> 15
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 15

```
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1               5                   10                  15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
            20                  25                  30
```

```
Asn Gly Asn Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35                  40                  45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Pro Ala Ser Gly Val Pro
    50                  55                  60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
                85                  90                  95

Leu Glu Tyr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Leu Lys
            100                 105                 110
```

<210> 16
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 16

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gacatcgtga tgacccagag cccgctgtct ctgccagtga cccctggtga gccagccagt       60

attagctgcc gcagcagcaa aagtctgctg cacagcaatg gaaacaccta cctgtattgg      120

tatctgcaga aaccgggtca gtcaccccag ctgctgatct accgcatgtc taacccggcc      180

agcggcgtcc ctgatcgctt tagcggcagc ggttccggaa ccgattttac cctgaagatc      240

tcccgcgttg aggccgaaga cgtcggcgtc tactattgca tgcagcacct ggaatatccg      300

ctgacattcg gtggcggtac caaagtggaa ctcaaa                                 336
```

<210> 17
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 17

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Asp Tyr
            20                  25                  30

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

Gly Phe Ile Arg His Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Thr
    50                  55                  60
```

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

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

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

Leu Val Thr Val Ser Ser
        115
```

<210> 18
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 18

```
gaagtgaaat tggtggagtc tggaggaggc ttggtacagc ctgggagttc tctgagactc       60

tcctgtgcag cttctgggtt caccttcact gattactaca tgagctgggt ccgccagcct      120

ccaggaaagg cacttgagtg gttgggtttt attagacaca aggctaatgg ttacacaaca      180

gaatacagta catctgtgaa gggtcggttc accatctcca gagataattc cctaagcatc      240

ctctatcttc aaatgaacac cctgagacct gaggacagtg ccacttatta ctgtgcaaga      300

gatctcccgg ggtttgctta ctggggccaa gggactctgg tcaccgtctc ctca            354
```

<210> 19
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 19

```
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1               5                   10                  15

Glu Lys Val Thr Met Thr Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
            20                  25                  30

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

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
    50                  55                  60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 20
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 20
gatattgtta tgtcgcagtc gccatcctcc ctggctgtgt cagcaggaga gaaggtcact 60

atgacctgca aatccagtca gagtctgttc aacagtagaa cccgaaagaa ctacttggct 120

tggtaccagc agaaacccgg gcagtctcct aaactgctga tctactgggc atccgctagg 180

gaatctgggg tccctgatcg cttcacaggc agtggatctg ggacagattt cactctcacc 240

atcagcagtg tgcaggctga agacctggca gtttattact gcaagcaatc ttttaatctt 300

cggacgttcg gtggaggcac caagctggaa atcaaa 336

<210> 21
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 21

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 22
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 22
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaacgg ctataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 23
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 23

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 24
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 24
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt ttataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 25
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 25

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Ser Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 26
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 26
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgtcattc attcgacata aagcgaactt ttataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgataattc caagaacacc 240

ctgtacctgc agatgaactc cctgagggcg gaagataccg ccgtctatta ttgtgccaag 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ttcc 354

<210> 27
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 27

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
            20   25   30

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

Gly Phe Ile Arg His Lys Ala Asn Lys Tyr Thr Thr Glu Tyr Ser Thr
    50   55   60

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

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

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

Leu Val Thr Val Ser Ser
        115

<210> 28
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 28
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaacaa gtataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 29
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 29

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

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

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 30
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 30
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaacgt gtataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 31
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 31

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Ile Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 32
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 32
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaacat ttataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 33
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 33

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Glu Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 34
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 34
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt tgagaccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 35
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 35

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Arg Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 36
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 36
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt ttatacccgg 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 37
<211> 118

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 37

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 38
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 38
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt ttataccacc 180

gggtatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

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

<220>

<223> Synthetic Construct

<400> 39

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
            20                  25                  30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
    50                  55                  60

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

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

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

Leu Val Thr Val Ser Ser
        115
```

<210> 40
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 40

```
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg       60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg      120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt ttataccacc      180

gaatatagca catctgtccg tggccggttc accatctccc gcgatgattc caagaacagc      240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc      300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca            354
```

<210> 41
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 41

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Val Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 42
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 42
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagtgaactt ttataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

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

<220>
<223> Synthetic Construct

<400> 43

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 44
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 44
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt ttataccacc 180

gaatatagca catctgtcac gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 45
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 45

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr
    50                  55                  60

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

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

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

Leu Val Thr Val Ser Ser
        115
```

<210> 46
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 46

```
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg       60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg      120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaactt ttataccacc      180

gaatatagca catctgataa gggccggttc accatctccc gcgatgattc caagaacagc      240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc      300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca            354
```

<210> 47
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 47

```
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
            20                  25                  30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45
```

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 48
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 48
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 49
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 49

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 50
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 50
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 51
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 51

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ala Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 52
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Contstruct

<400> 52
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagcgctca gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 53
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 53

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Trp Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 54
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 54
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctcctg gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 55
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 55

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Asn Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 56
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 56
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccaa tagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 57
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 57

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Gly Ser Gly Val
50 55 60

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

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

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

<210> 58
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 58
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccata cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

ggaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 59
<211> 112

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 59

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 60
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 60
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccggt ttcggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 61
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 61

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 62
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 62
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctgctt 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 63
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 63

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

```
Arg Thr Arg Lys Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
    50                  55                  60

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

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

Ser Phe Arg Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105                 110
```

<210> 64
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 64

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gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc       60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctgaat      120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc      180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc      240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg      300

cgcacctttg gcggcggcac aaaagtggag atcaaa                                336
```

<210> 65
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 65

```
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
            20                  25                  30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
    50                  55                  60
```

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

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

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

<210> 66
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 66
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctgatg 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 67
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 67

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ala Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 68
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 68
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagcgctca gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 69
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 69

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Trp Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 70
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 70
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctcctg gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 71
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 71

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1   5   10   15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Asn Ser Leu Phe Asn Ser
            20   25   30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
    50   55   60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100   105   110

<210> 72
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 72
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccaa tagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 73
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 73

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Gly Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 74
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 74
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccata cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

ggaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 75
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 75

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 76
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 76
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccggt ttcggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 77
<211> 112
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 77

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Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                  10                  15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
            20                  25                  30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
    50                  55                  60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105                 110
```

<210> 78
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 78

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gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc       60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctgctt      120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc      180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc      240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg      300

cgcacctttg gcggcggcac aaaagtggag atcaaa                                336
```

<210> 79
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 79

```
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                  10                  15
```

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 80
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 80
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctgaat 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 81
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 81

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

Ser Phe Asn Leu Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 82
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 82
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca aaagctccca gagcctgttt aacagccgga cacggaagaa ttatctgatg 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 83
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 83

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Arg Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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

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

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

<210> 84
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 84
gacatcgtta tgacacagtc accagatagc ttagccgtgt ccctgggaga acgtgctacc 60

attaattgca ggagctccca gagcctgttt aacagccgga cacggaagaa ttatctggca 120

tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaggctg 300

cgcacctttg gcggcggcac aaaagtggag atcaaa 336

<210> 85
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 85

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Thr Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 86
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 86
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaacac gtataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 87
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 87

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
20 25 30

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

Gly Phe Ile Arg His Lys Ala Asn Leu Tyr Thr Thr Glu Tyr Ser Thr
50 55 60

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

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

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

Leu Val Thr Val Ser Ser
115

<210> 88
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 88
gaagtccagc tggttgaaag tggtggcggc ctggtgcagc cgggcggctc tctgcgcctg 60

tcatgcgctg catccggctt taccttcagc gactattaca tgagctgggt tcgccaagcg 120

cccggcaaag gcctggaatg ggtgggattc attcgacata aagcgaacct gtataccacc 180

gaatatagca catctgtcaa gggccggttc accatctccc gcgatgattc caagaacagc 240

ctgtacctgc agatgaactc cctgaagacg gaagataccg ccgtctatta ttgtgcccgc 300

gatctgcctg gctttgccta ttggggccaa ggcactctgg tcaccgtctc ctca 354

<210> 89
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 89

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

<210> 90
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 90

Gly Gly Leu Leu Gln Gly Gly
1 5

<210> 91
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 91

Leu Leu Gln Gly Ala
1 5

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

<220>
<223> Synthetic Construct

<400> 92

Gly Gly Leu Leu Gln Gly Ala
1   5

<210> 93
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 93

Leu Leu Gln Gly Pro Gly Lys
1   5

<210> 94
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 94

Leu Leu Gln Gly Pro Gly
1   5

<210> 95
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 95

Leu Leu Gln Gly Pro Ala
1   5

<210> 96
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 96

Leu Leu Gln Gly Pro
1   5

<210> 97
<211> 4

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 97

Leu Leu Gln Pro
1

<210> 98
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 98

Leu Leu Gln Pro Gly Lys
1   5

<210> 99
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 99

Leu Leu Gln Gly Ala Pro Gly Lys
1   5

<210> 100
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 100

Leu Leu Gln Gly Ala Pro Gly
1   5

<210> 101
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 101

Leu Leu Gln Gly Ala Pro
1   5

<210> 102
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> G or P

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> A, G, P, or absent

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> A, G, K, P, or absent

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> K, G or absent

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> K or absent

<400> 102

Leu Leu Gln Xaa Xaa Xaa Xaa Xaa
1 5

<210> 103
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> any naturally occurring amino acids or absent

<220>
<221> MISC_FEATURE
<222> (5)..(8)
<223> any naturally occurring amino acids or absent

<400> 103

Leu Leu Gln Xaa Xaa Xaa Xaa Xaa
1 5

<210> 104
<211> 1691
<212> DNA

<213> Homo sapiens

<400> 104
aacttcagtt tgttggctgc ggcagcaggt agcaaagtga cgccgagggc ctgagtgctc 60

cagtagccac cgcatctgga gaaccagcgg ttaccatgga ggggatcagt atatacactt 120

cagataacta caccgaggaa atgggctcag gggactatga ctccatgaag gaaccctgtt 180

tccgtgaaga aaatgctaat ttcaataaaa tcttcctgcc caccatctac tccatcatct 240

tcttaactgg cattgtgggc aatggattgg tcatcctggt catgggttac cagaagaaac 300

tgagaagcat gacggacaag tacaggctgc acctgtcagt ggccgacctc ctctttgtca 360

tcacgcttcc cttctgggca gttgatgccg tggcaaactg gtactttggg aacttcctat 420

gcaaggcagt ccatgtcatc tacacagtca acctctacag cagtgtcctc atcctggcct 480

tcatcagtct ggaccgctac ctggccatcg tccacgccac caacagtcag aggccaagga 540

agctgttggc tgaaaaggtg gtctatgttg gcgtctggat ccctgccctc ctgctgacta 600

ttcccgactt catctttgcc aacgtcagtg aggcagatga cagatatatc tgtgaccgct 660

tctaccccaa tgacttgtgg gtggttgtgt tccagtttca gcacatcatg gttggcctta 720

tcctgcctgg tattgtcatc ctgtcctgct attgcattat catctccaag ctgtcacact 780

ccaagggcca ccagaagcgc aaggccctca agaccacagt catcctcatc ctggctttct 840

tcgcctgttg gctgccttac tacattggga tcagcatcga ctccttcatc ctcctggaaa 900

tcatcaagca agggtgtgag tttgagaaca ctgtgcacaa gtggatttcc atcaccgagg 960

ccctagcttt cttccactgt tgtctgaacc ccatcctcta tgctttcctt ggagccaaat 1020

ttaaaacctc tgcccagcac gcactcacct ctgtgagcag agggtccagc ctcaagatcc 1080

tctccaaagg aaagcgaggt ggacattcat ctgtttccac tgagtctgag tcttcaagtt 1140

ttcactccag ctaacacaga tgtaaaagac tttttttat acgataaata actttttttt 1200

aagttacaca tttttcagat ataaaagact gaccaatatt gtacagtttt tattgcttgt 1260

tggatttttg tcttgtgttt ctttagtttt tgtgaagttt aattgactta tttatataaa 1320

tttttttgt ttcatattga tgtgtgtcta ggcaggacct gtggccaagt tcttagttgc 1380

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ggaacgtttt tcctgttctt aagacgtgat tttgctgtag aagatggcac ttataaccaa 1560

agcccaaagt ggtatagaaa tgctggtttt tcagttttca ggagtgggtt gatttcagca 1620

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Met Glu Gly Ile Ser Ile Tyr Thr Ser Asp Asn Tyr Thr Glu Glu Met
1               5                  10                  15

Gly Ser Gly Asp Tyr Asp Ser Met Lys Glu Pro Cys Phe Arg Glu Glu
            20                  25                  30

Asn Ala Asn Phe Asn Lys Ile Phe Leu Pro Thr Ile Tyr Ser Ile Ile
        35                  40                  45

Phe Leu Thr Gly Ile Val Gly Asn Gly Leu Val Ile Leu Val Met Gly
    50                  55                  60

Tyr Gln Lys Lys Leu Arg Ser Met Thr Asp Lys Tyr Arg Leu His Leu
65                  70                  75                  80

Ser Val Ala Asp Leu Leu Phe Val Ile Thr Leu Pro Phe Trp Ala Val
                85                  90                  95

Asp Ala Val Ala Asn Trp Tyr Phe Gly Asn Phe Leu Cys Lys Ala Val
            100                 105                 110

His Val Ile Tyr Thr Val Asn Leu Tyr Ser Ser Val Leu Ile Leu Ala
        115                 120                 125

Phe Ile Ser Leu Asp Arg Tyr Leu Ala Ile Val His Ala Thr Asn Ser
    130                 135                 140

Gln Arg Pro Arg Lys Leu Leu Ala Glu Lys Val Val Tyr Val Gly Val
145                 150                 155                 160

Trp Ile Pro Ala Leu Leu Leu Thr Ile Pro Asp Phe Ile Phe Ala Asn
                165                 170                 175

Val Ser Glu Ala Asp Asp Arg Tyr Ile Cys Asp Arg Phe Tyr Pro Asn
            180                 185                 190

Asp Leu Trp Val Val Val Phe Gln Phe Gln His Ile Met Val Gly Leu
        195                 200                 205

Ile Leu Pro Gly Ile Val Ile Leu Ser Cys Tyr Cys Ile Ile Ile Ser
    210                 215                 220

Lys Leu Ser His Ser Lys Gly His Gln Lys Arg Lys Ala Leu Lys Thr
225                 230                 235                 240

Thr Val Ile Leu Ile Leu Ala Phe Phe Ala Cys Trp Leu Pro Tyr Tyr
                245                 250                 255

Ile Gly Ile Ser Ile Asp Ser Phe Ile Leu Leu Glu Ile Ile Lys Gln
            260                 265                 270
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Gly Cys Glu Phe Glu Asn Thr Val His Lys Trp Ile Ser Ile Thr Glu
        275                 280                 285


Ala Leu Ala Phe Phe His Cys Cys Leu Asn Pro Ile Leu Tyr Ala Phe
    290                 295                 300


Leu Gly Ala Lys Phe Lys Thr Ser Ala Gln His Ala Leu Thr Ser Val
305                 310                 315                 320


Ser Arg Gly Ser Ser Leu Lys Ile Leu Ser Lys Gly Lys Arg Gly Gly
                325                 330                 335


His Ser Ser Val Ser Thr Glu Ser Glu Ser Ser Ser Phe His Ser Ser
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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15


Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
            20                  25                  30


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


Xaa Phe Ile Arg His Lys Xaa Asn Xaa Xaa Thr Xaa Glu Tyr Ser Thr
    50                  55                  60


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


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


Tyr Cys Ala Xaa Asp Leu Pro Gly Phe Ala Tyr Trp Gly Gln Gly Thr
            100                 105                 110


Leu Val Thr Val Ser Ser
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<400> 107

Asp Tyr Tyr Met Ser
1 5

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<400> 108

Gly Phe Thr Phe Thr Asp Tyr
1 5

<210> 109
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<400> 109

Gly Phe Thr Phe Thr Asp Tyr Tyr Met Ser
1 5 10

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<400> 110

Phe Ile Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Ala Ser
1 5 10 15

Val Lys Gly

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<400> 111

Arg Asn Lys Ala Asn Gly Tyr Thr
1 5

<210> 112

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<400> 112

Asp Leu Pro Gly Phe Ala Tyr
1 5

<210> 113
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<400> 113

Gly Phe Thr Phe Ser Asp Tyr
1 5

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<400> 114

Gly Phe Thr Phe Ser Asp Tyr Tyr Met Ser
1 5 10

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<400> 115

Asp Tyr Asn Ile Tyr
1 5

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<400> 116

Gly Tyr Ser Phe Thr Asp Tyr
1 5

<210> 117
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<400> 117

Gly Tyr Ser Phe Thr Asp Tyr Asn Ile Tyr
1 5 10

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<400> 118

Tyr Ile Asp Pro Tyr Asn Gly Gly Thr Arg Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

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Asp Pro Tyr Asn Gly Gly
1 5

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Thr Tyr Gly Ser Arg Tyr Val Gly Ala Met Asp Tyr
1 5 10

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<400> 121

Gly Tyr Thr Phe Thr Asp Tyr
1 5

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<400> 122

Gly Tyr Thr Phe Thr Asp Tyr Asn Ile Tyr
1 5 10

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<400> 123

Arg His Lys Ala Asn Gly Tyr Thr
1 5

<210> 124
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Arg His Lys Ala Asn Phe Tyr Thr
1 5

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Arg His Lys Ala Asn Lys Tyr Thr
1 5

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<400> 126

Arg His Lys Ala Asn Val Tyr Thr
1 5

<210> 127
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Arg His Lys Ala Asn Ile Tyr Thr
1 5

<210> 128
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Arg His Lys Ala Asn Phe Glu Thr
1 5

<210> 129
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Arg His Lys Ala Asn Thr Tyr Thr
1 5

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<400> 130

Arg His Lys Ala Asn Leu Tyr Thr
1 5

<210> 131
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<400> 131

Lys Ser Ser Gln Ser Leu Tyr Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 132
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<400> 132

Trp Ala Ser Ala Arg Glu Ser
1 5

<210> 133
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<400> 133

Lys Gln Ser Tyr Asn Leu Arg Thr
1 5

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tggtatcagc agaaacccgg acagccgcct aagctgctga tttattgggc cagcgcacgc 180

gaaagtggtg tgcccgaccg cttttccggc agcggtagtg gcactgactt caccctgacc 240

atctcaagct tgcaagccga agacgtggca gtatattatt gcaagcagtc gttcaatgat 300

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

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Arg Met Ser Asn Pro Ala Ser
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Met Gln His Leu Glu Tyr Pro Leu Thr
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Lys Ser Ser Gln Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

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Lys Gln Ser Phe Asn Leu Arg Thr

1 5

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Lys Gln Ser Phe Arg Leu Arg Thr
1 5

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Lys Ser Ala Gln Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

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<400> 142

Lys Ser Ser Trp Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 143
<211> 17
<212> PRT
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<220>
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<400> 143

Lys Ser Ser Asn Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

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<400> 144

Lys Ser Ser Gln Ser Leu Phe Asn Ser His Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

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<400> 145

Trp Ala Ser Ala Arg Gly Ser
1 5

<210> 146
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<400> 146

Lys Ser Ser Gln Ser Leu Phe Asn Ser Arg Phe Arg Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 147
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<400> 147

Lys Ser Ser Gln Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Leu

<210> 148
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<212> PRT
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<220>
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<400> 148

Lys Ser Ser Gln Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Asn

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<212> PRT
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<220>
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<400> 149

Lys Ser Ser Gln Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Met

<210> 150
<211> 17
<212> PRT
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<220>
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<400> 150

Arg Ser Ser Gln Ser Leu Phe Asn Ser Arg Thr Arg Lys Asn Tyr Leu
1 5 10 15

Ala

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<223> A, L, N, or M

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Xaa Ser Xaa Xaa Ser Leu Phe Asn Ser Xaa Xaa Arg Lys Asn Tyr Leu
1 5 10 15

Xaa

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<212> PRT
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Trp Ala Ser Ala Arg Xaa Ser
1 5

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<223> N or R

<400> 153

Lys Gln Ser Phe Xaa Leu Arg Thr
1 5

<210> 154
<211> 19
<212> PRT
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<220>
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<400> 154

Phe Ile Arg His Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 155
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<212> PRT
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<220>
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<400> 155

Phe Ile Arg His Lys Ala Asn Thr Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 156
<211> 19
<212> PRT
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<220>
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<400> 156

Phe Ile Arg His Lys Ala Asn Leu Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 157
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<223> D or V

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<223> K, T or R

<400> 157

Phe Ile Arg His Lys Xaa Asn Xaa Xaa Thr Xaa Glu Tyr Ser Thr Xaa
1 5 10 15

Xaa Xaa Gly

<210> 158
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<212> PRT
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<220>
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<400> 158

Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 159
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<220>
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<400> 159

Phe Ile Arg His Lys Ala Asn Lys Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 160
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<220>
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<400> 160

Phe Ile Arg His Lys Ala Asn Val Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

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<400> 161

Phe Ile Arg His Lys Ala Asn Ile Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 162
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<400> 162

Phe Ile Arg His Lys Ala Asn Phe Glu Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 163
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<220>
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<400> 163

Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Arg Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 164
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<220>
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<400> 164

Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr Trp
1 5 10 15

Val Lys Gly

<210> 165
<211> 19
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<220>
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<400> 165

Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Arg Gly

<210> 166
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<400> 166

Phe Ile Arg His Lys Val Asn Phe Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Lys Gly

<210> 167
<211> 19
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<220>
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<400> 167

Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Val Thr Gly

<210> 168
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<220>
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<400> 168

Phe Ile Arg His Lys Ala Asn Phe Tyr Thr Thr Glu Tyr Ser Thr Ser
1 5 10 15

Asp Lys Gly

<210> 169
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<212> PRT
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<220>
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<400> 169

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser
20 25 30

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

Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60

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


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


Ser Phe Asn Asp Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105                 110


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<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Synthetic Construct

<400>  170

Lys Gln Ser Phe Asn Asp Arg
1               5


<210>  171
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<400>  171

Leu Leu Gln Gly Gly
1               5


<210>  172
<211>  8
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<220>
<223>  Synthetic Construct

<400>  172

Gly Gly Leu Leu Gln Gly Pro Pro
1               5


<210>  173
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<220>
<223>  Synthetic Construct

<400>  173

Leu Leu Gln Gly Pro Pro
1               5
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