SEQUENCE LISTING

<110> REGENERON PHARMACEUTICALS, INC.

<120> Anti-EGFR Antibodies and Uses Thereof

<130> 8200A-WO

<140> To be assigned
<141> Filed herewith

<150> 61/663,984
<151> 2012-06-25

<150> 61/821,000
<151> 2013-05-08

<160> 388

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Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Asn Trp Asn Ser Asp Lys Ile Ala Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Glu Asn Ser Leu Phe
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
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35 40 45
Pro His Leu Leu Ile Tyr Leu Val Ser Thr Arg Ala Ser Gly Val Pro
50 55 60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
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            20   25   30
Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Asn Trp Asn Ser Asp Lys Ile Ala Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Glu Asn Ser Leu Phe
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
                85   90   95
Val Lys Arg Gly Asp Phe Trp Thr Asp Tyr Tyr Asp Tyr Trp Gly Gln
            100   105   110
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            20   25   30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35   40   45
Pro His Leu Leu Ile Tyr Leu Val Ser Thr Arg 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 Ala
                85   90   95
Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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            20   25   30
Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Asn Trp Asn Ser Asp Lys Ile Ala Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Glu Asn Ser Leu Phe
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
                85   90   95
Val Lys Arg Gly Asp Phe Trp Thr Asp Tyr Tyr Asp Tyr Trp Gly Gln
            100   105   110
Gly Thr Leu Val Thr Val Ser Ser
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tccggggtcc ctgacaggtt cagtggcagt ggatcaggca cagattttac actgaaaatc 240
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            20   25   30
Asn Gly His Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35   40   45
Pro His Leu Leu Ile Tyr Leu Val Ser Asn Arg 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 Ile Gln Ala
                85   90   95
Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105   110

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            20   25   30
Asp Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
        35   40   45
Trp Ile Gly His Ile Tyr Tyr Ser Gly Ile Thr Tyr Tyr Asn Pro Ser
    50   55   60
Leu Glu Ser Arg Val Thr Ile Thr Leu Asp Thr Ser Lys Asn Gln Phe
65   70   75   80
Ser Leu Asn Leu Arg Ser Val Thr Ala Ala Asp Thr Ala Val His Tyr
                85   90   95
Cys Ala Arg Thr Ala Ile Ile Gly Thr Met Asp Asn Trp Gly Arg Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Asp Ala Ser Thr Arg Ala Thr Gly Phe Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Thr Trp Trp Thr
                85   90   95
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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acaggaaaag gtctagagtg ggtctcaggt attggtactg ctggagatac atactatcca 180
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            20   25   30
Asp Met His Trp Val Arg Gln Thr Thr Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Gly Thr Ala Gly Asp Thr Tyr Tyr Pro Gly Ser Val Lys
    50   55   60
Gly Arg Phe Thr Ile Ser Arg Glu Asp Ala Lys Asn Ser Leu Tyr Leu
65   70   75   80
Gln Met Asn Ser Leu Arg Ala Gly Asp Thr Ala Val Tyr Tyr Cys Ala
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Arg Val Gly Tyr Asp Trp Asn Phe Val Ala Phe Asp Tyr Trp Gly Gln
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Gly Thr Leu Val Thr Val Ser Ser
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<400> 73
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atctcctgca ggtctagtca gagcctcctg catagtaatg gatacaacta tttggattgg 120
tacctgcaga agccagggca gtcgccacag ctcctgatcc acttggtctc tattcgggcc 180
tccggggtcc ctgacaggtt cagtggcagt ggatcaggca cagattttac acttaaaatc 240
agcagagtgg aggctgagga tgttgggatt tattactgca tgcaagctct tcaaactccg 300
tggacgttcg gccaagggac caaggtggaa atcaaa   336

<210> 74
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 74
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1   5   10   15

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Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
            20                  25                  30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35                  40                  45
Pro Gln Leu Leu Ile His Leu Val Ser Ile Arg 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 Ile Tyr Tyr Cys Met Gln Ala
                85                  90                  95
Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100                 105                 110


<210> 75
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75
cagagcctcc tgcatagtaa tggatacaac tat                                    33

<210> 76
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 76
Gln Ser Leu Leu His Ser Asn Gly Tyr Asn Tyr
 1               5                  10


<210> 77
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 77
ttggtctct                                                               9

<210> 78
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 78
Leu Val Ser
 1
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<210> 79
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 79
atgcaagctc ttcaaactcc gtggacg 27

<210> 80
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 80
Met Gln Ala Leu Gln Thr Pro Trp Thr
 1   5

<210> 81
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 81
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccgtcagc agtggtgatt actactggag ctggatccgc 120
cagcacccag ggaagggcct ggactggatt gggcacatct attacagtgg gagcacctac 180
tacaacccgt ccctcaagag tcgagttacc atatcactag acacgtctaa gaaccagttc 240
tccctgaagc tgaactctgt gactgccgcg gacacggccg tgtattactg tgcgagaacg 300
gctataactg gaactatgga ctactggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 82
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 82
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Val Ser Ser Gly
            20   25   30
Asp Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Asp
        35   40   45
Trp Ile Gly His Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser
    50   55   60
Leu Lys Ser Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Asn Gln Phe

65 70 75 80
Ser Leu Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95
Cys Ala Arg Thr Ala Ile Thr Gly Thr Met Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 83
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 83
ggtggctccg tcagcagtgg tgattactac 30

<210> 84
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 84
Gly Gly Ser Val Ser Ser Gly Asp Tyr Tyr
1 5 10

<210> 85
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 85
atctattaca gtgggagcac c 21

<210> 86
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 86
Ile Tyr Tyr Ser Gly Ser Thr
1 5

<210> 87
<211> 33
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87
gcgagaacgg ctataactgg aactatggac tac 33

<210> 88
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 88
Ala Arg Thr Ala Ile Thr Gly Thr Met Asp Tyr
 1 5 10

<210> 89
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 89
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctgcagggga gagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcaacttag cctggttcca gcagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatctacca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca tcatcagcag cctgcagtct 240
gaagattttg cactttatta ctgtcagcag tataatagct ggtggacgtt cggccaaggg 300
accaaggtgg aaatcaaa 318

<210> 90
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 90
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Ala Gly
 1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asn
            20 25 30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35 40 45
Tyr Asp Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50 55 60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Ile Ile Ser Ser Leu Gln Ser
65 70 75 80
Glu Asp Phe Ala Leu Tyr Tyr Cys Gln Gln Tyr Asn Ser Trp Trp Thr
                85 90 95
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100 105

<210> 91
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 91
cagagtgtta gcagcaac 18

<210> 92
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 92
Gln Ser Val Ser Ser Asn
1 5

<210> 93
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 93
gatgcatct 9

<210> 94
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 94
Asp Ala Ser
1

<210> 95
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 95
cagcagtata atagctggtg gacg 24

<210> 96
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 96
Gln Gln Tyr Asn Ser Trp Trp Thr
 1   5

<210> 97
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97
gaggtgcagc tggtggagtc tgggggaggc ttggtgcagc ctggcgggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattttgcca ttcactgggt ccggcaaact 120
ccagggaggg gcctggagtg ggtctcaggt cttagttgga atagtgctta catagcctat 180
gcggactctg tgaagggccg attcaccatc tccagagaca acgccaagga ctccctctat 240
ctgcaaatga acagtctgag acctgaggac acggccttgt attactgtgt aaaagataca 300
gacatacacc tttggtttct ctttgacttc tggggccagg gaaccctggt caccgtctcc 360
tca   363

<210> 98
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 98
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 Asp Asp Phe
            20   25   30
Ala Ile His Trp Val Arg Gln Thr Pro Gly Arg Gly Leu Glu Trp Val
        35   40   45
Ser Gly Leu Ser Trp Asn Ser Ala Tyr Ile Ala Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asp Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Leu Tyr Tyr Cys
                85   90   95
Val Lys Asp Thr Asp Ile His Leu Trp Phe Leu Phe Asp Phe Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 99
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 99
ggattcacct ttgatgattt tgcc 24

<210> 100
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 100
Gly Phe Thr Phe Asp Asp Phe Ala
 1 5

<210> 101
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 101
cttagttgga atagtgctta cata 24

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

<220>
<223> Synthetic

<400> 102
Leu Ser Trp Asn Ser Ala Tyr Ile
 1 5

<210> 103
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103
gtaaaagata cagacataca cctttggttt ctctttgact tc 42

<210> 104
<211> 14
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 104
Val Lys Asp Thr Asp Ile His Leu Trp Phe Leu Phe Asp Phe
 1   5   10

<210> 105
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 105
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattagt agttggttgg cctggtatca acagaaacca 120
gggaaagccc ctaaactcct gatctataag gcgtctagtt tagaaagtgg ggtcccatcg 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacaa tataatagtt attcgacgtt cggccaaggg 300
acacgactgg agattaaa   318

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

<220>
<223> Synthetic

<400> 106
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr 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 Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Lys Ala Ser Ser Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Ser Thr
                85   90   95
Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100   105

<210> 107
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 107

cagagtatta gtagttgg 18

<210> 108
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 108
Gln Ser Ile Ser Ser Trp
1 5

<210> 109
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 109
aaggcgtct 9

<210> 110
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 110
Lys Ala Ser
1

<210> 111
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 111
caacaatata atagttattc gacg 24

<210> 112
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 112
Gln Gln Tyr Asn Ser Tyr Ser Thr

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 1               5
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<210> 113
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113
gaggtgcagc tggtggagtc tgggggaggg ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgaca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcaggt atcagtggta gtggagatag cacatactac 180
gcaggctccg tgaagggccg gttcaccatc tccagagaca attccaagaa cactctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gtatgactac 300
agtaactact gggaccacta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca 366

<210> 114
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114
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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 Ser Tyr
            20                  25                  30
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gly Ile Ser Gly Ser Gly Asp Ser Thr Tyr Tyr Ala Gly 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 Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Tyr Asp Tyr Ser Asn Tyr Trp Asp His Tyr Gly Met Asp Val Trp
            100                 105                 110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 115
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 115
ggattcacct ttagcagcta tgac 24

<210> 116
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 116
Gly Phe Thr Phe Ser Ser Tyr Asp
 1   5

<210> 117
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 117
atcagtggta gtggagatag caca   24

<210> 118
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 118
Ile Ser Gly Ser Gly Asp Ser Thr
 1   5

<210> 119
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 119
gcgtatgact acagtaacta ctgggaccac tacggtatgg acgtc   45

<210> 120
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120
Ala Tyr Asp Tyr Ser Asn Tyr Trp Asp His Tyr Gly Met Asp Val
 1   5   10   15

<210> 121

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

<220>
<223> Synthetic

<400> 121
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattagt agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctataag gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacag tataatactt attctcggac gttcggccaa 300
gggaccaagg tggaaatcaa a 321

<210> 122
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 122
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr 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 Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Lys Ala Ser Ser Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Thr Tyr Ser Arg
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 123
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 123
cagagtatta gtagctgg 18

<210> 124
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 124

Gln Ser Ile Ser Ser Trp
1 5

<210> 125
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 125
aaggcgtct 9

<210> 126
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 126
Lys Ala Ser
1

<210> 127
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 127
caacagtata atacttattc tcggacg 27

<210> 128
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 128
Gln Gln Tyr Asn Thr Tyr Ser Arg Thr
1 5

<210> 129
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 129
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcagc agtggtgatt actactggaa ctggatccgc 120
cagtacccag ggaagggcct ggagttgatt ggctacatct attacagtgg aatcacctac 180
tacaacccgt ccctcaagag tcgacttacc atttcattag acacgtctaa gaaccagttc 240
tccctgaagc tgagttctgt gactgccgcg gacacggccg tgtattactg tgcgagagat 300
agagtggaac tacgggcttt tgatatctgg ggccaaggga caatggtcac cgtctcttca 360

<210> 130
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 130
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
            20   25   30
Asp Tyr Tyr Trp Asn Trp Ile Arg Gln Tyr Pro Gly Lys Gly Leu Glu
        35   40   45
Leu Ile Gly Tyr Ile Tyr Tyr Ser Gly Ile Thr Tyr Tyr Asn Pro Ser
    50   55   60
Leu Lys Ser Arg Leu Thr Ile Ser Leu Asp Thr Ser Lys Asn Gln Phe
65   70   75   80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85   90   95
Cys Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile Trp Gly Gln
            100   105   110
Gly Thr Met Val Thr Val Ser Ser
        115   120

<210> 131
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 131
ggtggctcca tcagcagtgg tgattactac   30

<210> 132
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 132
Gly Gly Ser Ile Ser Ser Gly Asp Tyr Tyr
 1   5   10

<210> 133
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 133
atctattaca gtggaatcac c 21

<210> 134
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 134
Ile Tyr Tyr Ser Gly Ile Thr
1 5

<210> 135
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 135
gcgagagata gagtggaact acgggctttt gatatc 36

<210> 136
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 136
Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile
1 5 10

<210> 137
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 137
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattagt aactatttaa attggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatcaacgat gcatccaatt tggaaacagg ggtcccatca 180

aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacat tatgatagtc tccctctcac cttcggccaa 300
gggacacgac tggagattaa a 321

<210> 138
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 138
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 Gln Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Asn Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln His Tyr Asp Ser Leu Pro Leu
85 90 95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 139
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 139
caggacatta gtaactat 18

<210> 140
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 140
Gln Asp Ile Ser Asn Tyr
1 5

<210> 141
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 141
gatgcatcc 9

<210> 142
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 142
Asp Ala Ser
1

<210> 143
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 143
caacattatg atagtctccc tctcacc 27

<210> 144
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 144
Gln His Tyr Asp Ser Leu Pro Leu Thr
1 5

<210> 145
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcagc agtggtgatt actactggaa ctggatccgc 120
cagtacccag ggaagggcct ggagttgatt ggctacatct attacagtgg aatcacctac 180
tacaacccgt ccctcaagag tcgacttacc atttcattag acacgtctaa gaaccagttc 240
tccctgaagc tgagttctgt gactgccgcg gacacggccg tgtattactg tgcgagagat 300
agagtggaac tacgagcttt tgatatctgg ggccaaggga caatggtcac cgtctcttca 360

<210> 146
<211> 120

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 146
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
            20   25   30
Asp Tyr Tyr Trp Asn Trp Ile Arg Gln Tyr Pro Gly Lys Gly Leu Glu
        35   40   45
Leu Ile Gly Tyr Ile Tyr Tyr Ser Gly Ile Thr Tyr Tyr Asn Pro Ser
    50   55   60
Leu Lys Ser Arg Leu Thr Ile Ser Leu Asp Thr Ser Lys Asn Gln Phe
65   70   75   80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85   90   95
Cys Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile Trp Gly Gln
            100   105   110
Gly Thr Met Val Thr Val Ser Ser
        115   120

<210> 147
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 147
ggtggctcca tcagcagtgg tgattactac   30

<210> 148
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 148
Gly Gly Ser Ile Ser Ser Gly Asp Tyr Tyr
 1   5   10

<210> 149
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 149
atctattaca gtggaatcac c   21

<210> 150
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 150
Ile Tyr Tyr Ser Gly Ile Thr
 1   5

<210> 151
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 151
gcgagagata gagtggaact acgagctttt gatatc   36

<210> 152
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 152
Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile
 1   5   10

<210> 153
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 153
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctataggaga cagaatcacc 60
atctcttgcc aggcgagtca ggacattaac aactatttaa attggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctacgat gcatccaatt tggaaacagg gatcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcgg cctgcagcct 240
gaagatattg caacatatta ctgtcaacac tatgatagtc tccctctcac cttcggccaa 300
gggacacgac tggagattaa a   321

<210> 154
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 154
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Gly
 1   5   10   15
Asp Arg Ile Thr Ile Ser Cys Gln Ala Ser Gln Asp Ile Asn Asn Tyr
            20   25   30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Asp Ala Ser Asn Leu Glu Thr Gly Ile Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Gly Leu Gln Pro
65   70   75   80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln His Tyr Asp Ser Leu Pro Leu
                85   90   95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100   105

<210> 155
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 155
caggacatta acaactat   18

<210> 156
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 156
Gln Asp Ile Asn Asn Tyr
 1   5

<210> 157
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 157
gatgcatcc   9

<210> 158
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 158
Asp Ala Ser
 1

<210> 159
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 159
caacactatg atagtctccc tctcacc 27

<210> 160
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 160
Gln His Tyr Asp Ser Leu Pro Leu Thr
 1   5

<210> 161
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 161
caggtgcagc tgcaggagtc gggcccagga ctggtgatgc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcaac agtggtgatt actactggaa ctggatccgc 120
cagcacccag ggaagggcct ggagtggatt ggatacatct attacagtga aatcagttat 180
cacaacccgt ccctcaagag tcgagttacc acctcaatag acacgtctac gaaccagttc 240
tccctgaagc tgagctctgt gactgccgcg gacacggccg tctattactg tgcgagagat 300
agagtggaac tacgagcttt tgatatctgg ggccaaggga caatggtcac cgtctcttca 360

<210> 162
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 162
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Met Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Asn Ser Gly
            20   25   30

```
Asp Tyr Tyr Trp Asn Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
        35                  40                  45
Trp Ile Gly Tyr Ile Tyr Tyr Ser Glu Ile Ser Tyr His Asn Pro Ser
    50                  55                  60
Leu Lys Ser Arg Val Thr Thr Ser Ile Asp Thr Ser Thr Asn Gln Phe
65                  70                  75                  80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95
Cys Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile Trp Gly Gln
            100                 105                 110
Gly Thr Met Val Thr Val Ser Ser
        115                 120
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<210> 163
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 163
ggtggctcca tcaacagtgg tgattactac 30

<210> 164
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 164
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Gly Gly Ser Ile Asn Ser Gly Asp Tyr Tyr
 1               5                  10
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<210> 165
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 165
atctattaca gtgaaatcag t 21

<210> 166
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 166
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Ile Tyr Tyr Ser Glu Ile Ser
 1               5
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<210> 167
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 167
gcgagagata gagtggaact acgagctttt gatatc 36

<210> 168
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 168
Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile
 1   5   10

<210> 169
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 169
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattagc aactatttaa attggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctacgat gcatccaatt tggaaacagg ggtcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacac tatgatagtc tccctctcac cttcggccaa 300
gggacacgac tggagattaa a 321

<210> 170
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 170
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 Gln Ala Ser Gln Asp Ile Ser Asn Tyr
            20   25   30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro

65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln His Tyr Asp Ser Leu Pro Leu
85 90 95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 171
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 171
caggacatta gcaactat 18

<210> 172
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 172
Gln Asp Ile Ser Asn Tyr
1 5

<210> 173
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 173
gatgcatcc 9

<210> 174
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 174
Asp Ala Ser
1

<210> 175
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 175
caacactatg atagtctccc tctcacc 27

<210> 176
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 176
Gln His Tyr Asp Ser Leu Pro Leu Thr
1 5

<210> 177
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 177
caggtgcagc tgcaggagtc gggcccagga ctggtgatgc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcaac agtggtgatt actactggaa ctggatccgc 120
cagcacccag ggaagggcct ggagtggatt ggatacatct attacagtga aatcagttat 180
cacaacccgt ccctcaagag tcgagttacc acctcaatag acacgtctac gaaccagttc 240
tccctgaagc tgagctctgt gactgccgcg gacacggccg tctattactg tgcgagagat 300
agagtggaac tacgagcttt tgatatctgg ggccaaggga caatggtcac cgtctcttca 360

<210> 178
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 178
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Met Pro Ser Gln
1 5 10 15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Asn Ser Gly
20 25 30
Asp Tyr Tyr Trp Asn Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
35 40 45
Trp Ile Gly Tyr Ile Tyr Tyr Ser Glu Ile Ser Tyr His Asn Pro Ser
50 55 60
Leu Lys Ser Arg Val Thr Thr Ser Ile Asp Thr Ser Thr Asn Gln Phe
65 70 75 80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85 90 95
Cys Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile Trp Gly Gln
100 105 110
Gly Thr Met Val Thr Val Ser Ser

115 120

<210> 179
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 179
ggtggctcca tcaacagtgg tgattactac 30

<210> 180
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 180
Gly Gly Ser Ile Asn Ser Gly Asp Tyr Tyr
1 5 10

<210> 181
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 181
atctattaca gtgaaatcag t 21

<210> 182
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 182
Ile Tyr Tyr Ser Glu Ile Ser
1 5

<210> 183
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 183

gcgagagata gagtggaact acgagctttt gatatc 36

<210> 184
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 184
Ala Arg Asp Arg Val Glu Leu Arg Ala Phe Asp Ile
1 5 10

<210> 185
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 185
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgttggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattagc aactatttaa attggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctacgat gcatccaatt tggagacagg ggtcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacac tatgatagtc tccctctcac cttcggccaa 300
gggacacgac tggagattaa a 321

<210> 186
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 186
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 Gln Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln His Tyr Asp Ser Leu Pro Leu
85 90 95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105

<210> 187
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 187
caggacatta gcaactat 18

<210> 188
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 188
Gln Asp Ile Ser Asn Tyr
1 5

<210> 189
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 189
gatgcatcc 9

<210> 190
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 190
Asp Ala Ser
1

<210> 191
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 191
caacactatg atagtctccc tctcacc 27

<210> 192
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 192
Gln His Tyr Asp Ser Leu Pro Leu Thr
 1   5

<210> 193
<211> 384
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 193
gaggtgcagc tggtggagtc tgggggaggc gtggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatgcca tgcactgggt ccgtcaagct 120
ccagggaagg gtctggagtg ggtctctctt attagtgggg atggtggtag cacatactat 180
gcagactctg tgaagggccg attcaccatc tccagagaca acagcaaaaa ctccctgtat 240
ctgcaaatga acagtctgag aactgaggac accgccttgt attactgtgc aaaaaattat 300
gatagtagtg gttattacta cccttactac tactactacg gtatggacgt ctggggccaa 360
gggaccacgg tcaccgtctc ctca   384

<210> 194
<211> 128
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 194
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20   25   30
Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Leu Ile Ser Gly Asp Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Thr Glu Asp Thr Ala Leu Tyr Tyr Cys
                85   90   95
Ala Lys Asn Tyr Asp Ser Ser Gly Tyr Tyr Tyr Pro Tyr Tyr Tyr Tyr
            100   105   110
Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120   125

<210> 195
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 195
ggattcacct ttgatgatta tgcc 24

<210> 196
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 196
Gly Phe Thr Phe Asp Asp Tyr Ala
 1   5

<210> 197
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 197
attagtgggg atggtggtag caca 24

<210> 198
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 198
Ile Ser Gly Asp Gly Gly Ser Thr
 1   5

<210> 199
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 199
gcaaaaaatt atgatagtag tggttattac tacccttact actactacta cggtatggac 60
gtc 63

<210> 200
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 200
Ala Lys Asn Tyr Asp Ser Ser Gly Tyr Tyr Tyr Pro Tyr Tyr Tyr Tyr
 1   5   10   15
Tyr Gly Met Asp Val
            20

<210> 201
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 201
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattagt agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctataag gcgtctagct tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagtag cctgcagcct 240
gatgattttg caacttatta ctgccaacag tataatagtt attctcggac gttcggccaa 300
gggaccaagg tggaaatcaa a   321

<210> 202
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 202
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr 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 Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Lys Ala Ser Ser Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Ser Arg
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 203
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 203
cagagtatta gtagctgg   18

<210> 204

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

<220>
<223> Synthetic

<400> 204
Gln Ser Ile Ser Ser Trp
 1   5

<210> 205
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 205
aaggcgtct   9

<210> 206
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 206
Lys Ala Ser
 1

<210> 207
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 207
caacagtata atagttattc tcggacg   27

<210> 208
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 208
Gln Gln Tyr Asn Ser Tyr Ser Arg Thr
 1   5

<210> 209
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 209
gaggtgcagc tggtggagtc gggcccagga ctggtgcagc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcaac agtggtgatt tctactggag ttggatccgc 120
cagcatccag ggaagggcct ggagtggatt ggtcacatat attacagtgg gatcacctac 180
tacagtccgt ccctcaagag tcgacttacc atctcagtag acacgtctaa gaaccagttc 240
tccctgaagc tgagttctgt gactgccgcg gacacggccg tgtattactg tgcgagaaag 300
agggtaactg gggaagttga ctactggggc cagggaaccc tggtcaccgt ctcctca 357

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

<220>
<223> Synthetic

<400> 210
Glu Val Gln Leu Val Glu Ser Gly Pro Gly Leu Val Gln Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Asn Ser Gly
            20   25   30
Asp Phe Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
        35   40   45
Trp Ile Gly His Ile Tyr Tyr Ser Gly Ile Thr Tyr Tyr Ser Pro Ser
    50   55   60
Leu Lys Ser Arg Leu Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe
65   70   75   80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85   90   95
Cys Ala Arg Lys Arg Val Thr Gly Glu Val Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

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

<220>
<223> Synthetic

<400> 211
ggtggctcca tcaacagtgg tgatttctac 30

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

<220>

<223> Synthetic

<400> 212
Gly Gly Ser Ile Asn Ser Gly Asp Phe Tyr
 1   5   10

<210> 213
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 213
atatattaca gtgggatcac c   21

<210> 214
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 214
Ile Tyr Tyr Ser Gly Ile Thr
 1   5

<210> 215
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 215
gcgagaaaga gggtaactgg ggaagttgac tac   33

<210> 216
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 216
Ala Arg Lys Arg Val Thr Gly Glu Val Asp Tyr
 1   5   10

<210> 217
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 217
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagaatcacc 60
atcacttgcc aggcgaatca ggacattaac aactatttaa attggtatca gcaaaagcca 120
gggaaagccc ctaagctcct gatctccgat gcatccaatt tggaaacagg ggtcccatca 180
agattcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacag tatgataatc tccctcccac cttcggccaa 300
gggacacgac tggagattaa acga 324

<210> 218
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 218
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Ile Thr Ile Thr Cys Gln Ala Asn Gln Asp Ile Asn Asn Tyr
            20   25   30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Ser Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Asn Leu Pro Pro
                85   90   95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg
            100   105

<210> 219
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 219
caggacatta acaactat 18

<210> 220
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 220
Gln Asp Ile Asn Asn Tyr
 1   5

<210> 221
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 221
gatgcatcc 9

<210> 222
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 222
Asp Ala Ser
 1

<210> 223
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 223
caacagtatg ataatctccc tcccacc 27

<210> 224
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 224
Gln Gln Tyr Asp Asn Leu Pro Pro Thr
 1   5

<210> 225
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 225
caggtgcagc tgcaggagtc gggcccagga ctggtgaacc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcaat agtggtgatt actactggag ctgggtccgc 120
cagcacccag ggaagggcct ggagtggatt ggatacatct attacagtgg gagcacctac 180

tacaacccgt ccctcaagag tcgagttacc atctcagtgg acacgtctaa gaaccagttc 240
tccctgaaac tgagctctgt gactgtcgcg gacacggccg tatattactg tgcgagagtg 300
ggctacagta aagggtactt tgactcctgg ggccagggaa ccctggtcac tgtctcctca 360

<210> 226
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 226
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Asn Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Asn Ser Gly
            20   25   30
Asp Tyr Tyr Trp Ser Trp Val Arg Gln His Pro Gly Lys Gly Leu Glu
        35   40   45
Trp Ile Gly Tyr Ile Tyr Tyr Ser 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 Leu Ser Ser Val Thr Val Ala Asp Thr Ala Val Tyr Tyr
                85   90   95
Cys Ala Arg Val Gly Tyr Ser Lys Gly Tyr Phe Asp Ser Trp Gly Gln
            100   105   110
Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 227
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 227
ggtggctcca tcaatagtgg tgattactac 30

<210> 228
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 228
Gly Gly Ser Ile Asn Ser Gly Asp Tyr Tyr
 1   5   10

<210> 229
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 229
atctattaca gtgggagcac c 21

<210> 230
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 230
Ile Tyr Tyr Ser Gly Ser Thr
1 5

<210> 231
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 231
gcgagagtgg gctacagtaa agggtacttt gactcc 36

<210> 232
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 232
Ala Arg Val Gly Tyr Ser Lys Gly Tyr Phe Asp Ser
1 5 10

<210> 233
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 233
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtga gagtattagt agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaaggtcct gatctatgat gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa tacactctca ccatcagcag cctgcagcct 240
gatgactttg caagttatta ctgccaacag tataaaagtt attggacgtt cggccaaggg 300
accaaggtgg aaatcaaa 318

<210> 234
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 234
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Ile Ser Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val 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 Glu Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Asp Asp Phe Ala Ser Tyr Tyr Cys Gln Gln Tyr Lys Ser Tyr Trp Thr
                85   90   95
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 235
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 235
gagagtatta gtagctgg   18

<210> 236
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 236
Glu Ser Ile Ser Ser Trp
 1   5

<210> 237
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 237
gatgcgtct   9

<210> 238
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 238
Asp Ala Ser
 1

<210> 239
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 239
caacagtata aaagttattg gacg 24

<210> 240
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 240
Gln Gln Tyr Lys Ser Tyr Trp Thr
 1   5

<210> 241
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 241
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaagtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt atctatggca tgaactgggt ccgccaggct 120
ccaggcaagg ggctggactg ggtggcagtt atttcagatg atggaagtaa taaagactat 180
gtggactccg tgaggggtcg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag cgctgaagac acggctgtct attactgtgc gaaagatcgt 300
atcactggca ctcattacta cggtttggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca 366

<210> 242
<211> 122
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 242
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Lys
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ile Tyr
            20   25   30
Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Asp Trp Val
        35   40   45
Ala Val Ile Ser Asp Asp Gly Ser Asn Lys Asp Tyr Val Asp Ser Val
    50   55   60
Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Ser Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Asp Arg Ile Thr Gly Thr His Tyr Tyr Gly Leu Asp Val Trp
            100   105   110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 243
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 243
ggattcacct tcagtatcta tggc   24

<210> 244
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 244
Gly Phe Thr Phe Ser Ile Tyr Gly
 1   5

<210> 245
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 245
atttcagatg atggaagtaa taaa   24

<210> 246
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 246
Ile Ser Asp Asp Gly Ser Asn Lys
 1   5

<210> 247
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 247
gcgaaagatc gtatcactgg cactcattac tacggtttgg acgtc   45

<210> 248
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 248
Ala Lys Asp Arg Ile Thr Gly Thr His Tyr Tyr Gly Leu Asp Val
 1   5   10   15

<210> 249
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 249
gacatccaga tgacccagtc tccgtcctca ctgtctgcat ctgtcggaga cagaatcacc 60
atcacttgtc gggcgagtca ggacattgcc aattatttag cctggtttca gcagaaacca 120
ggtaatgccc ctacgtccct gatctatgct gcatccattt tgcaaagtgg ggtcccatca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcaccag cctgcagcca 240
gaagattttg caagttatta ctgccaacaa tataatagaa agccgtggac gttcggccga 300
gggaccaagg tggaaatcaa a   321

<210> 250
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 250
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15

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Asp Arg Ile Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ala Asn Tyr
            20                  25                  30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Asn Ala Pro Thr Ser Leu Ile
        35                  40                  45
Tyr Ala Ala Ser Ile Leu Gln Ser Gly Val Pro Ser Lys Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Ser Tyr Tyr Cys Gln Gln Tyr Asn Arg Lys Pro Trp
                85                  90                  95
Thr Phe Gly Arg Gly Thr Lys Val Glu Ile Lys
            100                 105
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<210> 251
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 251
caggacattg ccaattat 18

<210> 252
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 252
```
Gln Asp Ile Ala Asn Tyr
 1               5
```

<210> 253
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 253
gctgcatcc 9

<210> 254
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 254
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Ala Ala Ser
 1
```

<210> 255
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 255
caacaatata atagaaagcc gtggacg 27

<210> 256
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 256
Gln Gln Tyr Asn Arg Lys Pro Trp Thr
1 5

<210> 257
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 257
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt atctatggca tgcactgggt ccgccaggct 120
ccaggcaagg gactggagtg ggtgacagtt atatcagacg atggaagtaa aaaatactat 180
gtagactccg tgaagggccg attcaccctc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agctgaggac acggctgtgt attactgtgc gagagatcgt 300
ataactggaa ccaactggta cggtatggac gtctggggcc aggggaccac ggtcaccgtc 360
tcctca 366

<210> 258
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 258
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 Ile Tyr
20 25 30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Thr Val Ile Ser Asp Asp Gly Ser Lys Lys Tyr Tyr Val Asp Ser Val
50 55 60

```
Lys Gly Arg Phe Thr Leu 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 Arg Ile Thr Gly Thr Asn Trp Tyr Gly Met Asp Val Trp
            100                 105                 110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 259
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 259
ggattcacct tcagtatcta tggc 24

<210> 260
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 260
```
Gly Phe Thr Phe Ser Ile Tyr Gly
 1               5
```

<210> 261
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 261
atatcagacg atggaagtaa aaaa 24

<210> 262
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 262
```
Ile Ser Asp Asp Gly Ser Lys Lys
 1               5
```

<210> 263
<211> 45

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 263
gcgagagatc gtataactgg aaccaactgg tacggtatgg acgtc 45

<210> 264
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 264
Ala Arg Asp Arg Ile Thr Gly Thr Asn Trp Tyr Gly Met Asp Val
1 5 10 15

<210> 265
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 265
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattagc aattatttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctttgct gcatccagtt tgcaaagtgg gggcccatca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccaacag tataatcgtt acccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

<210> 266
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 266
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 Asp Ile Ser Asn Tyr
20 25 30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
35 40 45
Phe Ala Ala Ser Ser Leu Gln Ser Gly Gly Pro Ser Lys 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 Tyr Asn Arg Tyr Pro Phe
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys

100 105

<210> 267
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 267
caggacatta gcaattat 18

<210> 268
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 268
Gln Asp Ile Ser Asn Tyr
1 5

<210> 269
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 269
gctgcatcc 9

<210> 270
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 270
Ala Ala Ser
1

<210> 271
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 271

caacagtata atcgttaccc attcact 27

<210> 272
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 272
Gln Gln Tyr Asn Arg Tyr Pro Phe Thr
 1   5

<210> 273
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 273
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctcagactc 60
acctgtaaag cctctggatt caccttcagt atctatggca taaactgggt ccgccaggct 120
tcaggcaagg ggctggactg ggtggcagtc atttcagatg atggaagtga taagaagtat 180
gcagattccg tgaagggccg attcaccatc tcccgagaca attccaaaaa cacggtttat 240
ctggaaatga gcagactgag aagtgaggac acggctgttt atttctgtgc gaaagaccgg 300
tttactggaa accactatta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca 366

<210> 274
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 274
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Thr Cys Lys Ala Ser Gly Phe Thr Phe Ser Ile Tyr
            20   25   30
Gly Ile Asn Trp Val Arg Gln Ala Ser Gly Lys Gly Leu Asp Trp Val
        35   40   45
Ala Val Ile Ser Asp Asp Gly Ser Asp Lys Lys Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr
65   70   75   80
Leu Glu Met Ser Arg Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
                85   90   95
Ala Lys Asp Arg Phe Thr Gly Asn His Tyr Tyr Gly Met Asp Val Trp
            100   105   110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 275

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

<220>
<223> Synthetic

<400> 275
ggattcacct tcagtatcta tggc 24

<210> 276
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 276
Gly Phe Thr Phe Ser Ile Tyr Gly
1 5

<210> 277
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 277
atttcagatg atggaagtga taag 24

<210> 278
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 278
Ile Ser Asp Asp Gly Ser Asp Lys
1 5

<210> 279
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 279
gcgaaagacc ggtttactgg aaaccactat tacggtatgg acgtc 45

<210> 280
<211> 15

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 280
Ala Lys Asp Arg Phe Thr Gly Asn His Tyr Tyr Gly Met Asp Val
 1   5   10   15

<210> 281
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 281
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcagt 60
atcacttgtc gggcgagtca ggacattagc gattatttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctatgct gcatccattt tgcaaaatgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg ctctttatta ctgtcatcag tataatcgtt tcccgtggac gttcggccaa 300
gggaccaagg tggaaatcaa a   321

<210> 282
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 282
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Ser Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asp Tyr
            20   25   30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35   40   45
Tyr Ala Ala Ser Ile Leu Gln Asn 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 Leu Tyr Tyr Cys His Gln Tyr Asn Arg Phe Pro Trp
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 283
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 283
caggacatta gcgattat 18

<210> 284
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 284
Gln Asp Ile Ser Asp Tyr
1 5

<210> 285
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 285
gctgcatcc 9

<210> 286
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 286
Ala Ala Ser
1

<210> 287
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 287
catcagtata atcgtttccc gtggacg 27

<210> 288
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 288

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His Gln Tyr Asn Arg Phe Pro Trp Thr
 1               5


<210> 289
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 289
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggggggtc cctgagactc 60
tcgtgtgcag cctctggatt cacgttcagt atctatggca tacactgggt ccgccaggct 120
ccaggcaagg gactggagtg ggtggcagtc atatctgatg atggaagtaa taaaaagtat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agctgaggac acggctatat tttactgtgc gaaagatcgg 300
ataactggaa cccactacta cggaatggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca                                                            366

<210> 290
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 290
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ile Tyr
            20                  25                  30
Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ala Val Ile Ser Asp Asp Gly Ser Asn Lys Lys Tyr Ala 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 Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Phe Tyr Cys
                85                  90                  95
Ala Lys Asp Arg Ile Thr Gly Thr His Tyr Tyr Gly Met Asp Val Trp
            100                 105                 110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120


<210> 291
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 291
ggattcacgt tcagtatcta tggc                                        24

<210> 292
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<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 292
Gly Phe Thr Phe Ser Ile Tyr Gly
 1   5

<210> 293
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 293
atatctgatg atggaagtaa taaa   24

<210> 294
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 294
Ile Ser Asp Asp Gly Ser Asn Lys
 1   5

<210> 295
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 295
gcgaaagatc ggataactgg aacccactac tacggaatgg acgtc   45

<210> 296
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 296
Ala Lys Asp Arg Ile Thr Gly Thr His Tyr Tyr Gly Met Asp Val
 1   5   10   15

<210> 297
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 297
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcagc 60
atcacttgtc gggcgagtca ggacattagc aattatttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctatgct gcttccagtt tgcaaagtgg ggtcccatca 180
aaattcagcg gcagtggatc tgggatagaa ttcactctca ccatcagcag cctgcagcct 240
gaagattttt caacttatta ctgccatcaa tataatcgtt tcccgtggac gttcggccaa 300
gggaccaagg tggaaatcaa a 321

<210> 298
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 298
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Ser Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
            20   25   30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Lys Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Ile Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ser Thr Tyr Tyr Cys His Gln Tyr Asn Arg Phe Pro Trp
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 299
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 299
caggacatta gcaattat 18

<210> 300
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 300
Gln Asp Ile Ser Asn Tyr
1 5

<210> 301
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 301
gctgcttcc 9

<210> 302
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 302
Ala Ala Ser
1

<210> 303
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 303
catcaatata atcgtttccc gtggacg 27

<210> 304
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 304
His Gln Tyr Asn Arg Phe Pro Trp Thr
1 5

<210> 305
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 305
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgaggctc 60
tcatgtgcag cctctagatt cacctttact aactattgga tgagttgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtggccaaa ataaagcaag atggaagtga gaaatactat 180
ctggactctg tgaaggaccg attcaccatc tccagagaca acgccaagaa ctcactttat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagtagcagc 300
agctggtacg actactacta cggtatggac gtctggggcc acgggaccac ggtcaccgtc 360
tcctca 366

<210> 306
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 306
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 Arg Phe Thr Phe Thr Asn Tyr
            20   25   30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Lys Ile Lys Gln Asp Gly Ser Glu Lys Tyr Tyr Leu Asp Ser Val
    50   55   60
Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser 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 Ser Ser Ser Ser Trp Tyr Asp Tyr Tyr Tyr Gly Met Asp Val Trp
            100   105   110
Gly His Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 307
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 307
agattcacct ttactaacta ttgg 24

<210> 308
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 308
Arg Phe Thr Phe Thr Asn Tyr Trp
 1   5

<210> 309
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 309
ataaagcaag atggaagtga gaaa 24

<210> 310
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 310
Ile Lys Gln Asp Gly Ser Glu Lys
1 5

<210> 311
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 311
gcgagtagca gcagctggta cgactactac tacggtatgg acgtc 45

<210> 312
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 312
Ala Ser Ser Ser Ser Trp Tyr Asp Tyr Tyr Tyr Gly Met Asp Val
1 5 10 15

<210> 313
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 313
gaaattgtgt tgactcagtc tccagacttt cagtctgtga ctccaaaaga gaaagtcacc 60
atcacctgcc gggccagtca gagcattggt actaacttac actggtacca gcagagacca 120

gatcagtctc caaagctcct catcaagttt gcttcccagt ccttctcagg ggtcccctcg 180
aggttcagtg gcagtggatc tgggacagat ttcaccctca ccatcaatag cctggaagct 240
gaagatgctg caacgtatta ctgtcatcag actaactttt tacctcacac tttcggcgga 300
gggaccaagg tggaaatcaa acga 324

<210> 314
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 314
Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1   5   10   15
Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Thr Asn
            20   25   30
Leu His Trp Tyr Gln Gln Arg Pro Asp Gln Ser Pro Lys Leu Leu Ile
        35   40   45
Lys Phe Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65   70   75   80
Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Thr Asn Phe Leu Pro His
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
            100   105

<210> 315
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 315
cagagcattg gtactaac 18

<210> 316
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 316
Gln Ser Ile Gly Thr Asn
 1   5

<210> 317
<211> 9
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 317
tttgcttcc 9

<210> 318
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 318
Phe Ala Ser
1

<210> 319
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 319
catcagacta actttttacc tcacact 27

<210> 320
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 320
His Gln Thr Asn Phe Leu Pro His Thr
1 5

<210> 321
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 321
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt aactatggca tgtactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtgacattc atatcatatg atggaagtaa taaaaactat 180
gtagactcca tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagtctgag agttgaggac acggctgtat attactgtgc gaaagatcgt 300
ataagtggaa ctccatggta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca 366

<210> 322

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

<220>
<223> Synthetic

<400> 322
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 Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Thr Phe Ile Ser Tyr Asp Gly Ser Asn Lys Asn Tyr Val Asp Ser Met
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Asp Arg Ile Ser Gly Thr Pro Trp Tyr Gly Met Asp Val Trp
            100   105   110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 323
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 323
ggattcacct tcagtaacta tggc   24

<210> 324
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 324
Gly Phe Thr Phe Ser Asn Tyr Gly
 1   5

<210> 325
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 325
atatcatatg atggaagtaa taaa   24

<210> 326
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 326
Ile Ser Tyr Asp Gly Ser Asn Lys
 1   5

<210> 327
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 327
gcgaaagatc gtataagtgg aactccatgg tacggtatgg acgtc   45

<210> 328
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 328
Ala Lys Asp Arg Ile Ser Gly Thr Pro Trp Tyr Gly Met Asp Val
 1   5   10   15

<210> 329
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 329
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattgcc gattatttag cctggtttca acagaaacca 120
gggaaagccc ctaagtccct gatctttgct gcatccagtc tggaaagttg ggttccctta 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccaacag tatagtaggt tcccgatcac cttcggccaa 300
gggaccaagg tggaaatcaa a   321

<210> 330
<211> 107
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 330
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 Asp Ile Ala Asp Tyr
            20   25   30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35   40   45
Phe Ala Ala Ser Ser Leu Glu Ser Trp Val Pro Leu Lys 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 Tyr Ser Arg Phe Pro Ile
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 331
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 331
caggacattg ccgattat   18

<210> 332
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 332
Gln Asp Ile Ala Asp Tyr
 1   5

<210> 333
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 333
gctgcatcc   9

<210> 334
<211> 3
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 334
Ala Ala Ser
 1

<210> 335
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 335
caacagtata gtaggttccc gatcacc 27

<210> 336
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 336
Gln Gln Tyr Ser Arg Phe Pro Ile Thr
 1   5

<210> 337
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 337
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt aactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtgacactc atagaacatg atggaagtaa taaaaactat 180
gtagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagtctgag agttgaggac acggctgtat attactgtgc gaaagatcgt 300
ataactggaa ctccatggta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca 366

<210> 338
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 338
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

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            20                  25                  30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Thr Leu Ile Glu His Asp Gly Ser Asn Lys Asn 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 Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Asp Arg Ile Thr Gly Thr Pro Trp Tyr Gly Met Asp Val Trp
            100                 105                 110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 339
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 339
ggattcacct tcagtaacta tggc 24

<210> 340
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 340
Gly Phe Thr Phe Ser Asn Tyr Gly
 1   5

<210> 341
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 341
atagaacatg atggaagtaa taaa 24

<210> 342
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 342
Ile Glu His Asp Gly Ser Asn Lys

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 1               5


<210> 343
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 343
gcgaaagatc gtataactgg aactccatgg tacggtatgg acgtc                  45

<210> 344
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 344
Ala Lys Asp Arg Ile Thr Gly Thr Pro Trp Tyr Gly Met Asp Val
 1               5                  10                  15


<210> 345
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 345
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattgcc gattatttag cctggtttca acagaaacca 120
gggaaagccc ctaaatccct gatctttgcg gcatccagtc tggaaagttg ggttccctta 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccaacag tataataggt tcccgatcac cttcggccaa 300
gggacacgac tggagattaa a                                            321

<210> 346
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 346
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 Asp Ile Ala Asp Tyr
            20                  25                  30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Ser Leu Ile
        35                  40                  45
Phe Ala Ala Ser Ser Leu Glu Ser Trp Val Pro Leu Lys Phe Ser Gly
    50                  55                  60
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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 Tyr Asn Arg Phe Pro Ile
                85                  90                  95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100                 105


<210> 347
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 347
caggacattg ccgattat                                                  18

<210> 348
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 348
Gln Asp Ile Ala Asp Tyr
 1               5


<210> 349
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 349
gcggcatcc                                                             9

<210> 350
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 350
Ala Ala Ser
 1


<210> 351
<211> 27
<212> DNA
<213> Artificial Sequence
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<220>
<223> Synthetic

<400> 351
caacagtata ataggttccc gatcacc 27

<210> 352
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 352
Gln Gln Tyr Asn Arg Phe Pro Ile Thr
1 5

<210> 353
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 353
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgaggctc 60
tcatgtgcag cctctagatt cacctttagt acctattgga tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtggccaaa ataaagcaag atggaagtga gaaatactat 180
ctggactctg tgaaggaccg attcaccatc tccagagaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaagac acggctgtgt attactgtgc gagtagcatt 300
acctggtacg actactacta cggtatggac gtctggggcc acgggaccac ggtcaccgtc 360
tcctca 366

<210> 354
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 354
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 Arg Phe Thr Phe Ser Thr Tyr
20 25 30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Lys Ile Lys Gln Asp Gly Ser Glu Lys Tyr Tyr Leu Asp Ser Val
50 55 60
Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser 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 Ser Ser Ile Thr Trp Tyr Asp Tyr Tyr Tyr Gly Met Asp Val Trp
100 105 110

Gly His Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 355
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 355
agattcacct ttagtaccta ttgg 24

<210> 356
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 356
Arg Phe Thr Phe Ser Thr Tyr Trp
1 5

<210> 357
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 357
ataaagcaag atggaagtga gaaa 24

<210> 358
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 358
Ile Lys Gln Asp Gly Ser Glu Lys
1 5

<210> 359
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 359
gcgagtagca ttacctggta cgactactac tacggtatgg acgtc 45

<210> 360
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 360
Ala Ser Ser Ile Thr Trp Tyr Asp Tyr Tyr Tyr Gly Met Asp Val
 1   5   10   15

<210> 361
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 361
gaaattgtgt tgacgcagtc tccagacttt cagtctgtga ctccaaaaga gaaagtcacc 60
atcacctgcc gggccagtca gagcattggt agtaacttac actggtacca gcagaaacca 120
gatcagtctc caaacctcct catcaagttt gcttcccagt ccttctcagg ggtcccctcg 180
aggttcagtg gcagtggatc tgggacagat ttcaccctca ccatcaatag cctggaagct 240
gaagatgctg caacgtatta ctgtcatcag actaattttt tacctcacac tttcggcgga 300
gggaccaagg tggaaatcaa a 321

<210> 362
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 362
Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1   5   10   15
Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Asn
            20   25   30
Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Asn Leu Leu Ile
        35   40   45
Lys Phe Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65   70   75   80
Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Thr Asn Phe Leu Pro His
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 363
<211> 18
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 363
cagagcattg gtagtaac 18

<210> 364
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 364
Gln Ser Ile Gly Ser Asn
1 5

<210> 365
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 365
tttgcttcc 9

<210> 366
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 366
Phe Ala Ser
1

<210> 367
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 367
catcagacta attttttacc tcacact 27

<210> 368
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 368
His Gln Thr Asn Phe Leu Pro His Thr
 1   5

<210> 369
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 369
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt atctatggca tgaactgggt ccgccagggt 120
ccaggcaagg ggctggactg ggtggcagtt atttcagatg atggaagtaa taaagactat 180
gtagactccg tgaggggtcg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag cgctgaagac acggctgtct attactgtgc gaaagatcgt 300
atcactggca ctcattacta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca   366

<210> 370
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 370
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 Ile Tyr
            20   25   30
Gly Met Asn Trp Val Arg Gln Gly Pro Gly Lys Gly Leu Asp Trp Val
        35   40   45
Ala Val Ile Ser Asp Asp Gly Ser Asn Lys Asp Tyr Val Asp Ser Val
    50   55   60
Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Ser Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Asp Arg Ile Thr Gly Thr His Tyr Tyr Gly Met Asp Val Trp
            100   105   110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 371
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 371
ggattcacct tcagtatcta tggc 24

<210> 372
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 372
Gly Phe Thr Phe Ser Ile Tyr Gly
1 5

<210> 373
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 373
atttcagatg atggaagtaa taaa 24

<210> 374
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 374
Ile Ser Asp Asp Gly Ser Asn Lys
1 5

<210> 375
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 375
gcgaaagatc gtatcactgg cactcattac tacggtatgg acgtc 45

<210> 376
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 376
Ala Lys Asp Arg Ile Thr Gly Thr His Tyr Tyr Gly Met Asp Val
 1   5   10   15

<210> 377
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 377
gacatccaga tgacccagtc tccgtcctca ctgtctgcat ctgtcggaga cagaatcacc 60
atcacttgtc gggcgagtca ggacattgcc aattatttag cctggtttca gcagaaacca 120
ggtaatgccc ctacgtccct gatctatgct gcatccattt tgcaaagtgg ggtcccatca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcaccag cctgcagcca 240
gaagattttg caagttatta ctgccaacaa tataatagaa agccgtggac gttcggccga 300
gggaccaagg tggaaatcaa a   321

<210> 378
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 378
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Ile Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ala Asn Tyr
            20   25   30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Asn Ala Pro Thr Ser Leu Ile
        35   40   45
Tyr Ala Ala Ser Ile Leu Gln Ser Gly Val Pro Ser Lys Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Ser Tyr Tyr Cys Gln Gln Tyr Asn Arg Lys Pro Trp
                85   90   95
Thr Phe Gly Arg Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 379
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 379
caggacattg ccaattat   18

<210> 380
<211> 6
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 380
Gln Asp Ile Ala Asn Tyr
 1   5

<210> 381
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 381
gctgcatcc   9

<210> 382
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 382
Ala Ala Ser
 1

<210> 383
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 383
caacaatata atagaaagcc gtggacg   27

<210> 384
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 384
Gln Gln Tyr Asn Arg Lys Pro Trp Thr
 1   5

<210> 385
<211> 1210

<212> PRT
<213> Homo sapiens

<400> 385
Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala
 1   5   10   15
Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln
            20   25   30
Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe
        35   40   45
Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
    50   55   60
Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
65   70   75   80
Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
                85   90   95
Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
            100   105   110
Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
        115   120   125
Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
    130   135   140
His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
145   150   155   160
Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
                165   170   175
Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
            180   185   190
Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
        195   200   205
Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
    210   215   220
Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
225   230   235   240
Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
                245   250   255
Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
            260   265   270
Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
        275   280   285
Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
    290   295   300
Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
305   310   315   320
Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
                325   330   335
Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
            340   345   350
Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
        355   360   365
Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
    370   375   380
Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
385   390   395   400
Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
                405   410   415
Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
            420   425   430
His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
        435   440   445

```
Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
    450                 455                 460
Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
465                 470                 475                 480
Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
                485                 490                 495
Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
            500                 505                 510
Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
        515                 520                 525
Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
    530                 535                 540
Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
545                 550                 555                 560
Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
                565                 570                 575
Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
            580                 585                 590
Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
        595                 600                 605
Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
    610                 615                 620
Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
625                 630                 635                 640
Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu
                645                 650                 655
Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His
            660                 665                 670
Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu
        675                 680                 685
Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu
    690                 695                 700
Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser
705                 710                 715                 720
Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu
                725                 730                 735
Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser
            740                 745                 750
Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser
        755                 760                 765
Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser
    770                 775                 780
Thr Val Gln Leu Ile Thr Gln Leu Met Pro Phe Gly Cys Leu Leu Asp
785                 790                 795                 800
Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu Leu Asn
                805                 810                 815
Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg
            820                 825                 830
Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro
        835                 840                 845
Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu Gly Ala
    850                 855                 860
Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp
865                 870                 875                 880
Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp
                885                 890                 895
Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser
            900                 905                 910
Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu
        915                 920                 925
```

```
Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr
    930                 935                 940
Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys
945                 950                 955                 960
Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln
                965                 970                 975
Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro
            980                 985                 990
Thr Asp Ser Asn Phe Tyr Arg Ala Leu Met Asp Glu Glu Asp Met Asp
        995                 1000                1005
Asp Val Val Asp Ala Asp Glu Tyr Leu Ile Pro Gln Gln Gly Phe Phe
    1010                1015                1020
Ser Ser Pro Ser Thr Ser Arg Thr Pro Leu Leu Ser Ser Leu Ser Ala
1025                1030                1035                1040
Thr Ser Asn Asn Ser Thr Val Ala Cys Ile Asp Arg Asn Gly Leu Gln
                1045                1050                1055
Ser Cys Pro Ile Lys Glu Asp Ser Phe Leu Gln Arg Tyr Ser Ser Asp
            1060                1065                1070
Pro Thr Gly Ala Leu Thr Glu Asp Ser Ile Asp Asp Thr Phe Leu Pro
        1075                1080                1085
Val Pro Glu Tyr Ile Asn Gln Ser Val Pro Lys Arg Pro Ala Gly Ser
    1090                1095                1100
Val Gln Asn Pro Val Tyr His Asn Gln Pro Leu Asn Pro Ala Pro Ser
1105                1110                1115                1120
Arg Asp Pro His Tyr Gln Asp Pro His Ser Thr Ala Val Gly Asn Pro
                1125                1130                1135
Glu Tyr Leu Asn Thr Val Gln Pro Thr Cys Val Asn Ser Thr Phe Asp
            1140                1145                1150
Ser Pro Ala His Trp Ala Gln Lys Gly Ser His Gln Ile Ser Leu Asp
        1155                1160                1165
Asn Pro Asp Tyr Gln Gln Asp Phe Phe Pro Lys Glu Ala Lys Pro Asn
    1170                1175                1180
Gly Ile Phe Lys Gly Ser Thr Ala Glu Asn Ala Glu Tyr Leu Arg Val
1185                1190                1195                1200
Ala Pro Gln Ser Ser Glu Phe Ile Gly Ala
                1205                1210


<210> 386
<211> 660
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 386
Leu Glu Glu Lys Lys Val Cys Gln Gly Thr Ser Asn Lys Leu Thr Gln
 1               5                  10                  15
Leu Gly Thr Phe Glu Asp His Phe Leu Ser Leu Gln Arg Met Phe Asn
            20                  25                  30
Asn Cys Glu Val Val Leu Gly Asn Leu Glu Ile Thr Tyr Val Gln Arg
        35                  40                  45
Asn Tyr Asp Leu Ser Phe Leu Lys Thr Ile Gln Glu Val Ala Gly Tyr
    50                  55                  60
Val Leu Ile Ala Leu Asn Thr Val Glu Arg Ile Pro Leu Glu Asn Leu
65                  70                  75                  80
Gln Ile Ile Arg Gly Asn Met Tyr Tyr Glu Asn Ser Tyr Ala Leu Ala
                85                  90                  95
Val Leu Ser Asn Tyr Asp Ala Asn Lys Thr Gly Leu Lys Glu Leu Pro
```

```
            100                 105                 110
Met Arg Asn Leu Gln Glu Ile Leu His Gly Ala Val Arg Phe Ser Asn
        115                 120                 125
Asn Pro Ala Leu Cys Asn Val Glu Ser Ile Gln Trp Arg Asp Ile Val
    130                 135                 140
Ser Ser Asp Phe Leu Ser Asn Met Ser Met Asp Phe Gln Asn His Leu
145                 150                 155                 160
Gly Ser Cys Gln Lys Cys Asp Pro Ser Cys Pro Asn Gly Ser Cys Trp
                165                 170                 175
Gly Ala Gly Glu Glu Asn Cys Gln Lys Leu Thr Lys Ile Ile Cys Ala
            180                 185                 190
Gln Gln Cys Ser Gly Arg Cys Arg Gly Lys Ser Pro Ser Asp Cys Cys
        195                 200                 205
His Asn Gln Cys Ala Ala Gly Cys Thr Gly Pro Arg Glu Ser Asp Cys
    210                 215                 220
Leu Val Cys Arg Lys Phe Arg Asp Glu Ala Thr Cys Lys Asp Thr Cys
225                 230                 235                 240
Pro Pro Leu Met Leu Tyr Asn Pro Thr Thr Tyr Gln Met Asp Val Asn
                245                 250                 255
Pro Glu Gly Lys Tyr Ser Phe Gly Ala Thr Cys Val Lys Lys Cys Pro
            260                 265                 270
Arg Asn Tyr Val Val Thr Asp His Gly Ser Cys Val Arg Ala Cys Gly
        275                 280                 285
Ala Asp Ser Tyr Glu Met Glu Glu Asp Gly Val Arg Lys Cys Lys Lys
    290                 295                 300
Cys Glu Gly Pro Cys Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu
305                 310                 315                 320
Phe Lys Asp Ser Leu Ser Ile Asn Ala Thr Asn Ile Lys His Phe Lys
                325                 330                 335
Asn Cys Thr Ser Ile Ser Gly Asp Leu His Ile Leu Pro Val Ala Phe
            340                 345                 350
Arg Gly Asp Ser Phe Thr His Thr Pro Pro Leu Asp Pro Gln Glu Leu
        355                 360                 365
Asp Ile Leu Lys Thr Val Lys Glu Ile Thr Gly Phe Leu Leu Ile Gln
    370                 375                 380
Ala Trp Pro Glu Asn Arg Thr Asp Leu His Ala Phe Glu Asn Leu Glu
385                 390                 395                 400
Ile Ile Arg Gly Arg Thr Lys Gln His Gly Gln Phe Ser Leu Ala Val
                405                 410                 415
Val Ser Leu Asn Ile Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile
            420                 425                 430
Ser Asp Gly Asp Val Ile Ile Ser Gly Asn Lys Asn Leu Cys Tyr Ala
        435                 440                 445
Asn Thr Ile Asn Trp Lys Lys Leu Phe Gly Thr Ser Gly Gln Lys Thr
    450                 455                 460
Lys Ile Ile Ser Asn Arg Gly Glu Asn Ser Cys Lys Ala Thr Gly Gln
465                 470                 475                 480
Val Cys His Ala Leu Cys Ser Pro Glu Gly Cys Trp Gly Pro Glu Pro
                485                 490                 495
Arg Asp Cys Val Ser Cys Arg Asn Val Ser Arg Gly Arg Glu Cys Val
            500                 505                 510
Asp Lys Cys Asn Leu Leu Glu Gly Glu Pro Arg Glu Phe Val Glu Asn
        515                 520                 525
Ser Glu Cys Ile Gln Cys His Pro Glu Cys Leu Pro Gln Ala Met Asn
    530                 535                 540
Ile Thr Cys Thr Gly Arg Gly Pro Asp Asn Cys Ile Gln Cys Ala His
545                 550                 555                 560
Tyr Ile Asp Gly Pro His Cys Val Lys Thr Cys Pro Ala Gly Val Met
                565                 570                 575
Gly Glu Asn Asn Thr Leu Val Trp Lys Tyr Ala Asp Ala Gly His Val
```

```
            580                 585                 590
Cys His Leu Cys His Pro Asn Cys Thr Tyr Gly Cys Thr Gly Pro Gly
        595                 600                 605
Leu Glu Gly Cys Pro Thr Asn Gly Pro Lys Ile Pro Ser Ile Ala Cys
    610                 615                 620
Pro Gly Gly Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu
625                 630                 635                 640
Gln Lys Leu Ile Ser Glu Glu Asp Leu Ser Gly His His His His His
                645                 650                 655
His Ser Ser Gly
            660
```

<210> 387
<211> 856
<212> PRT
<213> Homo sapiens

<400> 387

```
Leu Glu Glu Lys Lys Val Cys Gln Gly Thr Ser Asn Lys Leu Thr Gln
 1               5                  10                  15
Leu Gly Thr Phe Glu Asp His Phe Leu Ser Leu Gln Arg Met Phe Asn
            20                  25                  30
Asn Cys Glu Val Val Leu Gly Asn Leu Glu Ile Thr Tyr Val Gln Arg
        35                  40                  45
Asn Tyr Asp Leu Ser Phe Leu Lys Thr Ile Gln Glu Val Ala Gly Tyr
    50                  55                  60
Val Leu Ile Ala Leu Asn Thr Val Glu Arg Ile Pro Leu Glu Asn Leu
65                  70                  75                  80
Gln Ile Ile Arg Gly Asn Met Tyr Tyr Glu Asn Ser Tyr Ala Leu Ala
                85                  90                  95
Val Leu Ser Asn Tyr Asp Ala Asn Lys Thr Gly Leu Lys Glu Leu Pro
            100                 105                 110
Met Arg Asn Leu Gln Glu Ile Leu His Gly Ala Val Arg Phe Ser Asn
        115                 120                 125
Asn Pro Ala Leu Cys Asn Val Glu Ser Ile Gln Trp Arg Asp Ile Val
    130                 135                 140
Ser Ser Asp Phe Leu Ser Asn Met Ser Met Asp Phe Gln Asn His Leu
145                 150                 155                 160
Gly Ser Cys Gln Lys Cys Asp Pro Ser Cys Pro Asn Gly Ser Cys Trp
                165                 170                 175
Gly Ala Gly Glu Glu Asn Cys Gln Lys Leu Thr Lys Ile Ile Cys Ala
            180                 185                 190
Gln Gln Cys Ser Gly Arg Cys Arg Gly Lys Ser Pro Ser Asp Cys Cys
        195                 200                 205
His Asn Gln Cys Ala Ala Gly Cys Thr Gly Pro Arg Glu Ser Asp Cys
    210                 215                 220
Leu Val Cys Arg Lys Phe Arg Asp Glu Ala Thr Cys Lys Asp Thr Cys
225                 230                 235                 240
Pro Pro Leu Met Leu Tyr Asn Pro Thr Thr Tyr Gln Met Asp Val Asn
                245                 250                 255
Pro Glu Gly Lys Tyr Ser Phe Gly Ala Thr Cys Val Lys Lys Cys Pro
            260                 265                 270
Arg Asn Tyr Val Val Thr Asp His Gly Ser Cys Val Arg Ala Cys Gly
        275                 280                 285
Ala Asp Ser Tyr Glu Met Glu Glu Asp Gly Val Arg Lys Cys Lys Lys
    290                 295                 300
Cys Glu Gly Pro Cys Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu
305                 310                 315                 320
Phe Lys Asp Ser Leu Ser Ile Asn Ala Thr Asn Ile Lys His Phe Lys
```

```
                325                 330                 335
Asn Cys Thr Ser Ile Ser Gly Asp Leu His Ile Leu Pro Val Ala Phe
            340                 345                 350
Arg Gly Asp Ser Phe Thr His Thr Pro Pro Leu Asp Pro Gln Glu Leu
        355                 360                 365
Asp Ile Leu Lys Thr Val Lys Glu Ile Thr Gly Phe Leu Leu Ile Gln
    370                 375                 380
Ala Trp Pro Glu Asn Arg Thr Asp Leu His Ala Phe Glu Asn Leu Glu
385                 390                 395                 400
Ile Ile Arg Gly Arg Thr Lys Gln His Gly Gln Phe Ser Leu Ala Val
                405                 410                 415
Val Ser Leu Asn Ile Thr Ser Leu Gly Leu Arg Ser Leu Lys Glu Ile
            420                 425                 430
Ser Asp Gly Asp Val Ile Ile Ser Gly Asn Lys Asn Leu Cys Tyr Ala
        435                 440                 445
Asn Thr Ile Asn Trp Lys Lys Leu Phe Gly Thr Ser Gly Gln Lys Thr
    450                 455                 460
Lys Ile Ile Ser Asn Arg Gly Glu Asn Ser Cys Lys Ala Thr Gly Gln
465                 470                 475                 480
Val Cys His Ala Leu Cys Ser Pro Glu Gly Cys Trp Gly Pro Glu Pro
                485                 490                 495
Arg Asp Cys Val Ser Cys Arg Asn Val Ser Arg Gly Arg Glu Cys Val
            500                 505                 510
Asp Lys Cys Asn Leu Leu Glu Gly Glu Pro Arg Glu Phe Val Glu Asn
        515                 520                 525
Ser Glu Cys Ile Gln Cys His Pro Glu Cys Leu Pro Gln Ala Met Asn
    530                 535                 540
Ile Thr Cys Thr Gly Arg Gly Pro Asp Asn Cys Ile Gln Cys Ala His
545                 550                 555                 560
Tyr Ile Asp Gly Pro His Cys Val Lys Thr Cys Pro Ala Gly Val Met
                565                 570                 575
Gly Glu Asn Asn Thr Leu Val Trp Lys Tyr Ala Asp Ala Gly His Val
            580                 585                 590
Cys His Leu Cys His Pro Asn Cys Thr Tyr Gly Cys Thr Gly Pro Gly
        595                 600                 605
Leu Glu Gly Cys Pro Thr Asn Gly Pro Lys Ile Pro Ser Ile Ala Glu
    610                 615                 620
Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala
625                 630                 635                 640
Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile
                645                 650                 655
Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val
            660                 665                 670
Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val
        675                 680                 685
Asn Asn Val Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp
    690                 695                 700
Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu Pro Ile Gln His Gln
705                 710                 715                 720
Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp
                725                 730                 735
Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val
            740                 745                 750
Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr
        755                 760                 765
Lys Lys Gln Val Thr Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu
    770                 775                 780
Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr
785                 790                 795                 800
Lys Asn Thr Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr
```

```
                805                 810                 815
Ser Lys Leu Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr
            820                 825                 830
Ser Cys Ser Val Val His Glu Gly Leu His Asn His His Thr Thr Lys
        835                 840                 845
Ser Phe Ser Arg Thr Pro Gly Lys
    850                 855
```

<210> 388
<211> 227
<212> PRT
<213> Homo sapiens

<400> 388

```
Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
 1               5                  10                  15
Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
            20                  25                  30
Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
        35                  40                  45
Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
    50                  55                  60
His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
65                  70                  75                  80
Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
                85                  90                  95
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
            100                 105                 110
Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
        115                 120                 125
Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
    130                 135                 140
Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
145                 150                 155                 160
Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
                165                 170                 175
Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
            180                 185                 190
Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
        195                 200                 205
His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
    210                 215                 220
Pro Gly Lys
225
```