SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> Human Antibodies to Clostridium Difficile Toxins

<130> 7150A-WO

<140> To be assigned
<141> Filed herewith

<150> 61/605,914
<151> 2012-03-02

<150> 61/608,255
<151> 2012-03-08

<150> 61/717,404
<151> 2012-10-23

<160> 398

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ccagggaagg gactagagtg ggtctcaggt cttacaagta ctggtggtag cgcttcctcc 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa tattctgtat 240
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Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Leu Thr Ser Thr Gly Gly Ser Ala Ser Ser Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Ile 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 Lys Thr Phe Asn Trp Asn Ser Tyr Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
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Ala Lys Thr Phe Asn Trp Asn Ser Tyr Phe Asp Tyr
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cctgaccagc ctcccaggct cctcatctat ggtacatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggac 240
cctgaagatt ttgcagtgta ttactgtcaa cagtatggta actcactgta cacttttggc 300
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            20   25   30
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Asp Gln Pro Pro Arg Leu Leu
        35   40   45
Ile Tyr Gly Thr Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50   55   60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Asp
65   70   75   80
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Asn Ser Leu
                85   90   95
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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ccaggcaagg gtctagagtg ggtggcactt atattgtatg atggaagtag tgaagactat 180
acagactccg tgaagggccg ctttaccgtc tccagagaca attccaagaa caccctgtat 240
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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
Ala Leu Ile Leu Tyr Asp Gly Ser Ser Glu Asp Tyr Thr Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Gly Ser Ile Leu Asn Arg Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

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<400> 19
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<400> 20
Gly Phe Thr Phe Ser Gly His Gly
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<400> 22
Ile Leu Tyr Asp Gly Ser Ser Glu
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<210> 23
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<400> 23
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<400> 24
Ala Arg Gly Ser Ile Leu Asn Arg Pro Phe Asp Tyr
 1   5   10

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atcaactgca agtccagcca gagtatttta ttcagttcca acaataagat ctacttagct 120
tggttccagc agaaaccagg acagcctcct aaactactca tttactggac atctacccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcact 240
atcagtagtc tgcaggctga agatgtggca gtttactact gtcaacaata ttatactctt 300
ccattcactt tcggccctgg gaccaaagtg gatatcaaa   339

<210> 26
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Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Ile Leu Phe Ser
            20   25   30
Ser Asn Asn Lys Ile Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln
        35   40   45
Pro Pro Lys Leu Leu Ile Tyr Trp Thr Ser Thr Arg Glu Ser Gly Val
    50   55   60
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65   70   75   80
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85   90   95
Tyr Tyr Thr Leu Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile
            100   105   110

Lys

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<210> 28
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<400> 28
Gln Ser Ile Leu Phe Ser Ser Asn Asn Lys Ile Tyr
 1 5 10

<210> 29
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<400> 29
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<210> 30
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<400> 30
Trp Thr Ser
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<210> 31
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<400> 32
Gln Gln Tyr Tyr Thr Leu Pro Phe Thr
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ccaggcaagg ggctggagtg ggtggcattt atatcatttg atggaggtca tcaagactac 180
acagacgccg cggagggccg attcaccatc tccagagaca attccaagaa cacgttgtat 240
ctggaaatgg tcagcctgag acctgcagac acggctatat attattgtgt gaaagggagc 300
gactcgtcgc gaggttttgg ctactggggc cggggaatcc tggtcaccgt ctcctca   357

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Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Leu Ser Gly His
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Phe Ile Ser Phe Asp Gly Gly His Gln Asp Tyr Thr Asp Ala Ala
    50   55   60
Glu Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Glu Met Val Ser Leu Arg Pro Ala Asp Thr Ala Ile Tyr Tyr Cys
                85   90   95
Val Lys Gly Ser Asp Ser Ser Arg Gly Phe Gly Tyr Trp Gly Arg Gly
            100   105   110
Ile Leu Val Thr Val Ser Ser
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<400> 36
Gly Phe Thr Leu Ser Gly His Gly
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<400> 38
Ile Ser Phe Asp Gly Gly His Gln
 1   5

<210> 39
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<400> 40
Val Lys Gly Ser Asp Ser Ser Arg Gly Phe Gly Tyr
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atcaactgca agtccagcca gagtgtttta ttcagttccg acaataagaa ctacttggct 120
tggtaccagc tgaaaccagg tcagcctcct cacctactta tttactgggc atctattcgt 180
gattccgggg tccctgaccg atttagtggc agcgggtctg ggacagattt cacgctcacc 240

atcagcagcc tgcaggctga ggatgtggca gtttactcct gtcatcaata ttatagtgct 300
ccactcacct tcggcggagg gaccaaggtg gagatcaaa 339

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<400> 42
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
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Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Phe Ser
            20   25   30
Ser Asp Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Leu Lys Pro Gly Gln
        35   40   45
Pro Pro His Leu Leu Ile Tyr Trp Ala Ser Ile Arg Asp Ser Gly Val
    50   55   60
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65   70   75   80
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Ser Cys His Gln
                85   90   95
Tyr Tyr Ser Ala Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile
            100   105   110
Lys

<210> 43
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<400> 43
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<210> 44
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Gln Ser Val Leu Phe Ser Ser Asp Asn Lys Asn Tyr
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<400> 45
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<210> 46
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<400> 46
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<400> 47
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<400> 48
His Gln Tyr Tyr Ser Ala Pro Leu Thr
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ccagggaagg gactggagtg gatttcacac attagtagca gtggtgatat tatatactat 180
acaaagtctg tgaagggccg attcaccatc tccagagata acgccaagaa ctcactgttt 240
ctgcaaatga caagtctgag agccgaggac acggctgtat attactgtgc gagagaaagg 300
tacagtcaat acggttatta ttacttcgga atggatgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Val Thr Phe Arg Thr Tyr
            20   25   30
Glu Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45
Ser His Ile Ser Ser Ser Gly Asp Ile Ile Tyr Tyr Thr Lys Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Phe
65 70 75 80
Leu Gln Met Thr Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Glu Arg Tyr Ser Gln Tyr Gly Tyr Tyr Tyr Phe Gly Met Asp
100 105 110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

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<400> 51
ggagtcacct tcaggacata tgaa 24

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<220>
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Gly Val Thr Phe Arg Thr Tyr Glu
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<400> 53
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<210> 54
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<220>
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<400> 54
Ile Ser Ser Ser Gly Asp Ile Ile
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<210> 55
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<210> 56
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<400> 56
Ala Arg Glu Arg Tyr Ser Gln Tyr Gly Tyr Tyr Tyr Phe Gly Met Asp
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Val

<210> 57
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<212> DNA
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atcacttgcc gggccagtca gaatactgat aagtggatgg cctggtatca gcagaaagca 120
gggaaagccc ctaaactcct gatctataag gcgtctattt tagaaagtgg ggtcccttca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaagaa tataatactt attttcgggc gttcggccaa 300
gggaccaagg tggaaaccag a   321

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

<210> 59
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<220>
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<400> 59
cagaatactg ataagtgg   18

<210> 60
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<400> 60
Gln Asn Thr Asp Lys Trp
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<210> 61
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<220>
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<400> 61
aaggcgtct   9

<210> 62
<211> 3
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<220>
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<400> 62
Lys Ala Ser
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<210> 63
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<212> DNA
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<400> 63
caagaatata atacttattt tcgggcg   27

<210> 64
<211> 9
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<220>
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<400> 64
Gln Glu Tyr Asn Thr Tyr Phe Arg Ala
 1   5

<210> 65
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ccagggaaga gactggagtg gatttcacac attgatagta gtggtactat tatatattac 180
gcagactctg tgaagggccg attcaccatc tccagagaca gcgccaagaa ctcactgttt 240
ctgcaaatgg acagtctgag agccgaggac acggctgttt attactgtgc gagagaaagg 300
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accgtctcct ca 372

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Asp Val Gln Leu Val Glu Ser Gly Gly Asp Phe Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Val Ala Phe Asn Asp Tyr
            20   25   30
Glu Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Arg Leu Glu Trp Ile
        35   40   45
Ser His Ile Asp Ser Ser Gly Thr Ile Ile Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Ser Ala Lys Asn Ser Leu Phe
65   70   75   80
Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Glu Arg Tyr Ser His Tyr Gly Tyr Tyr Tyr Phe Gly Met Asp
            100   105   110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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<400> 67
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<210> 68
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<220>
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<400> 68
Gly Val Ala Phe Asn Asp Tyr Glu
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<210> 69
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<400> 69
attgatagta gtggtactat tata 24

<210> 70
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<220>
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<400> 70
Ile Asp Ser Ser Gly Thr Ile Ile
 1 5

<210> 71
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gcgagagaaa ggtacagtca ctacggatat tactacttcg gtatggatgt c 51

<210> 72
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<400> 72
Ala Arg Glu Arg Tyr Ser His Tyr Gly Tyr Tyr Tyr Phe Gly Met Asp
 1 5 10 15
Val

<210> 73
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<223> Synthetic

<400> 73
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gaatattgat aactggttgg cctggtatca gcagaaaaca 120
ggtaaagccc ctaacctcct gatctataag gcgtctactt tggaaagtgg ggtcccttca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcatcag cctgcagcct 240
gatgattttg caacttatta ctgccaagaa tataatactt attctcggac gttcggccaa 300
ggcaccaagg tggaaatcaa a 321

<210> 74
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 74

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

<210> 75
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75
cagaatattg ataactgg 18

<210> 76
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 76
Gln Asn Ile Asp Asn Trp
1 5

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

<220>
<223> Synthetic

<400> 77
aaggcgtct 9

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

<220>
<223> Synthetic

<400> 78
Lys Ala Ser
1

<210> 79
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 79
caagaatata atacttattc tcggacg 27

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

<220>
<223> Synthetic

<400> 80
Gln Glu Tyr Asn Thr Tyr Ser Arg Thr
1 5

<210> 81
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 81
gagatacaat tgatagagtc tgggggagac atggtacaac ctggagggtc cctgagactc 60
tcctgtgcag cctctggaat ctcccttaat agttatgaaa tgaattgggt ccgccagact 120
ccagggatgg ggctggagtg gatttcacac ataagtagta gtggaacttc tatatattat 180
gcaaactctg tgaagggccg attcaccata ttcagagaca gcgccaagaa ctcactgttg 240
ctgcaaatga acagtctgag agccgaggac acggctattt attactgtgc aagagaaaga 300
tacgatcact ccgggtatta ctacctcgga atggatgtct ggggcctagg gaccacggtc 360
accgtctcgt ca 372

<210> 82
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 82
Glu Ile Gln Leu Ile Glu Ser Gly Gly Asp Met Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Ile Ser Leu Asn Ser Tyr
20 25 30
Glu Met Asn Trp Val Arg Gln Thr Pro Gly Met Gly Leu Glu Trp Ile
35 40 45
Ser His Ile Ser Ser Ser Gly Thr Ser Ile Tyr Tyr Ala Asn Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Phe Arg Asp Ser Ala Lys Asn Ser Leu Leu
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
85 90 95
Ala Arg Glu Arg Tyr Asp His Ser Gly Tyr Tyr Tyr Leu Gly Met Asp
100 105 110
Val Trp Gly Leu Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 83
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 83
ggaatctccc ttaatagtta tgaa 24

<210> 84
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 84
Gly Ile Ser Leu Asn Ser Tyr Glu
 1   5

<210> 85
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 85
ataagtagta gtggaacttc tata 24

<210> 86
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 87
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87
gcaagagaaa gatacgatca ctccgggtat tactacctcg gaatggatgt c 51

<210> 88
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 88
Ala Arg Glu Arg Tyr Asp His Ser Gly Tyr Tyr Tyr Leu Gly Met Asp
 1   5   10   15
Val

<210> 89
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 89
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctttaggaga cagagtcacc 60
atcacttgcc gggccagtca gaatattgat aactggatgg cctggtatca gcagaaagtt 120
gggaaagccc ctaaactctt gatatatagg gcgtctactt tagaaactgg ggtcccttca 180
aggttcggcg gcagtggatt tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
ggtgattttg cgacttacta ctgccaagaa tataatagtt attttcggac gttcggccaa 300
gggaccaagg tggagatcaa a 321

<210> 90
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 90
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Leu Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Asp Asn Trp
            20   25   30
Met Ala Trp Tyr Gln Gln Lys Val Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Arg Ala Ser Thr Leu Glu Thr Gly Val Pro Ser Arg Phe Gly Gly
    50   55   60
Ser Gly Phe Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Gly Asp Phe Ala Thr Tyr Tyr Cys Gln Glu Tyr Asn Ser Tyr Phe Arg
                85   90   95
Thr 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
cagaatattg ataactgg 18

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

<220>
<223> Synthetic

<400> 92
Gln Asn Ile Asp Asn Trp
 1   5

<210> 93

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

<220>
<223> Synthetic

<400> 93
agggcgtct 9

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

<220>
<223> Synthetic

<400> 94
Arg Ala Ser
1

<210> 95
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 95
caagaatata atagttattt tcggacg 27

<210> 96
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 96
Gln Glu Tyr Asn Ser Tyr Phe Arg Thr
1 5

<210> 97
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt agttacgaca tgcactgggt ccgccaagtt 120
ataggaaaag gtctggagtg ggtctcagct attggtactg ttggtgacac atactatgca 180
ggctccgtga agggccgatt caccatctcc agagaaaatg ccaagaattc cttgtacctt 240
caaatgaaca gcctgagagc cggggacacg gctgtgtatt actgtgcaag agatcggggg 300
ggtgcgaata tttatagttt ctactacggt atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

<210> 98
<211> 124
<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 Ser Ser Tyr
            20   25   30
Asp Met His Trp Val Arg Gln Val Ile Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Gly Thr Val Gly Asp Thr Tyr Tyr Ala Gly Ser Val Lys
    50   55   60
Gly Arg Phe Thr Ile Ser Arg Glu Asn 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
                85   90   95
Arg Asp Arg Gly Gly Ala Asn Ile Tyr Ser Phe Tyr Tyr Gly Met Asp
            100   105   110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 99
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 99
ggattcacct tcagtagtta cgac   24

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

<220>
<223> Synthetic

<400> 100
Gly Phe Thr Phe Ser Ser Tyr Asp
 1   5

<210> 101
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 101
attggtactg ttggtgacac a   21

<210> 102
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 102
Ile Gly Thr Val Gly Asp Thr

1 5

<210> 103
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103
gcaagagatc ggggggtgc gaatatttat agtttctact acggtatgga cgtc 54

<210> 104
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 104
Ala Arg Asp Arg Gly Gly Ala Asn Ile Tyr Ser Phe Tyr Tyr Gly Met
1 5 10 15
Asp Val

<210> 105
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 105
gacatccaga tgacccagtc tccatcctcc ctgtctgtat ctgtaggaga cagagtcacc 60
atcacttgcc gggcgagtca ggacattagc aattatttag cctggtatca gcagaaacca 120
gggaaagttc ctaagctcct gatctatgct gcatccactt tgcaatcagg ggtcccatct 180
cggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagatgttg caacttattt ctgtcaaaag tataacagtg ccccattcac tttcggccct 300
gggaccaaag tggatatcaa acga 324

<210> 106
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 107
caggacatta gcaattat 18

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

<220>
<223> Synthetic

<400> 108
Gln Asp Ile Ser Asn Tyr
 1 5

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

<220>
<223> Synthetic

<400> 109
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 110
Ala Ala Ser
 1

<210> 111
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 111
caaaagtata acagtgcccc attcact 27

<210> 112
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 112
Gln Lys Tyr Asn Ser Ala Pro Phe Thr
 1   5

<210> 113
<211> 393
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttaac agttttgtca tgagctgggt ccgtcaggct 120
ccagggaagg ggctggagtg ggtctcagct attagtggtt atggtggtag cacatactac 180
gcagactcca tgaagggccg gttcaccgtc tccagagaca attccaagaa tacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gaaagatcac 300
aaggatttct atgcttcggg gagttatttt aaccgggact actactacgg tatggacgtc 360
tggggccaag ggaccacggt caccgtctcc tca   393

<210> 114
<211> 131
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114
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 Asn Ser Phe
            20   25   30
Val Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Ser Gly Tyr Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Met
    50   55   60
Lys Gly Arg Phe Thr Val 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 Lys Asp His Lys Asp Phe Tyr Ala Ser Gly Ser Tyr Phe Asn Arg
            100   105   110
Asp Tyr Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr
        115   120   125
Val Ser Ser
    130

<210> 115
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 115
ggattcacct ttaacagttt tgtc   24

<210> 116
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 116
Gly Phe Thr Phe Asn Ser Phe Val
 1   5

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

<220>
<223> Synthetic

<400> 117
attagtggtt atggtggtag caca   24

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

<220>
<223> Synthetic

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

<210> 119
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 119
gcgaaagatc acaaggattt ctatgcttcg gggagttatt ttaaccggga ctactactac 60
ggtatggacg tc   72

<210> 120
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120
Ala Lys Asp His Lys Asp Phe Tyr Ala Ser Gly Ser Tyr Phe Asn Arg
 1   5   10   15
Asp Tyr Tyr Tyr Gly Met Asp Val
            20

<210> 121
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 121

gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgttggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattagt agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaaggtcct gatctataag gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacag tataatagtt attctcggac gttcggccaa 300
gggaccaagg tggaaatcaa acga 324

<210> 122
<211> 108
<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 Val 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 Arg
            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 atagttattc tcggacg 27

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

<220>
<223> Synthetic

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

<210> 129
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 129
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgacactc 60
tcctgcgcag cctctagatt caccttcagt aactacgaca tgcactgggt ccgccaagcc 120
acaggaaaag gtctggagtg ggtctcagct attggtactg tcggtgacac atactatgca 180
ggctctgtga agggccgatt caccatctcc agagacgatg ccaagaattc cctttatctc 240
caaatgaaca gcctgagagc cggggacacg gctgtttatt actgtgcaag agatcggggg 300
ggtgcgggga cttatagttt ctattacggt atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

<210> 130
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 130
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Thr Leu Ser Cys Ala Ala Ser Arg Phe Thr Phe Ser Asn Tyr
            20   25   30
Asp Met His Trp Val Arg Gln Ala Thr Gly Lys Gly Leu Glu Trp Val
        35   40   45

Ser Ala Ile Gly Thr Val Gly Asp Thr Tyr Tyr Ala Gly Ser Val Lys
50 55 60
Gly Arg Phe Thr Ile Ser Arg Asp 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
85 90 95
Arg Asp Arg Gly Gly Ala Gly Thr Tyr Ser Phe Tyr Tyr Gly Met Asp
100 105 110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 131
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 131
agattcacct tcagtaacta cgac 24

<210> 132
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 132
Arg Phe Thr Phe Ser Asn Tyr Asp
1 5

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

<220>
<223> Synthetic

<400> 133
attggtactg tcggtgacac a 21

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

<220>
<223> Synthetic

<400> 134
Ile Gly Thr Val Gly Asp Thr
1 5

<210> 135
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 135
gcaagagatc ggggggtgc ggggacttat agtttctatt acggtatgga cgtc 54

<210> 136
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 136
Ala Arg Asp Arg Gly Gly Ala Gly Thr Tyr Ser Phe Tyr Tyr Gly Met
1 5 10 15
Asp Val

<210> 137
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 137
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcgagtca ggacattagc aattatttag cctggtatca gcagaaacca 120
gggaaagttc ctaaactcct gatctatgct gcttccactt tgcaatcagg ggtcccatct 180
cggttcagtg gtagtggatc tgggacagat ttcactctca ccgtcagcag cctgcagcct 240
gaagatgttg caacttatta ctgtcaaaag tataccagtg ccccattcac tttcggccct 300
gggaccaaag tggatatcaa acga 324

<210> 138
<211> 108
<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 Arg Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
35 40 45
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Val Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Lys Tyr Thr Ser Ala Pro Phe
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
100 105

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

<220>
<223> Synthetic

<400> 139

caggacatta gcaattat 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
gctgcttcc 9

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

<220>
<223> Synthetic

<400> 142
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 143
caaaagtata ccagtgcccc attcact 27

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

<220>
<223> Synthetic

<400> 144
Gln Lys Tyr Thr Ser Ala Pro Phe Thr
1 5

<210> 145
<211> 369
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agctatgcca tgcactgggt ccgccaggct 120
ccaggcaagg gactggagtg ggtggcaatt atatggtttg atggaagtaa tgaagattat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa catggtatat 240
ctgcaaataa acagcctgag agccgaggac acggctgtgt attactgtgc gagatctgcc 300
aactggaact acgaaggggg acccctcttt gactactggg gccagggaac cctggtcacc 360
gtctcctca 369

<210> 146
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 147
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 147
ggattcacct tcagtagcta tgcc 24

<210> 148
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 148
Gly Phe Thr Phe Ser Ser Tyr Ala
 1   5

<210> 149
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 149
atatggtttg atggaagtaa tgaa 24

<210> 150
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 150
Ile Trp Phe Asp Gly Ser Asn Glu
 1   5

<210> 151
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 151
gcgagatctg ccaactggaa ctacgaaggg ggacccctct ttgactac 48

<210> 152
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 152
Ala Arg Ser Ala Asn Trp Asn Tyr Glu Gly Gly Pro Leu Phe Asp Tyr
 1   5   10   15

<210> 153
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 153
gacatccaga tgacccagtc tccatcctcc ctgtctgctt ctgtaggaga ccgagtcacc 60
atcacttgcc gggcaagtca gaccattagc acctttttaa attggtatca gcagaagcca 120
gggaaaggcc ctgaactcct gatctacact gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcgctctca ccatcagcag tctgcaacct 240
gaagattttg cgacttacta ctgtcaacag aattacaatg accctcccac cttcggccaa 300
gggacacgac tggagattaa acga 324

<210> 154
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 154

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

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

<220>
<223> Synthetic

<400> 155
cagaccatta gcaccttt 18

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

<220>
<223> Synthetic

<400> 156
Gln Thr Ile Ser Thr Phe
1 5

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

<220>
<223> Synthetic

<400> 157
actgcatcc 9

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

<220>
<223> Synthetic

<400> 158
Thr Ala Ser
1

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

<220>
<223> Synthetic

<400> 159
caacagaatt acaatgaccc tcccacc 27

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

<220>
<223> Synthetic

<400> 160
Gln Gln Asn Tyr Asn Asp Pro Pro Thr
1 5

<210> 161
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 161
caggtgcagc tggtggagtc tgggggaggc ttggtcaagc ctggagggtc cctgacactc 60
tcctgtgtag cctctggatt caccttcact gactactaca ttagttggat ccgccaggct 120
ccggggaagg gactggagtg gatttcatac attggtactg gtggtgctgc caaatactac 180
gcagactctg ttaagggccg attcaccgtc tccagggaca acgccaagaa ctcactgtat 240
ctactaatga acaacctgag agccgaggac acggccgtat attattgtgc gagagatctg 300
gggatctttg acttatgggg ccagggaacc ctggtcaccg tctcctca 348

<210> 162
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 162
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Thr Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30
Tyr Ile Ser Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
Ser Tyr Ile Gly Thr Gly Gly Ala Ala Lys Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80
Leu Leu Met Asn Asn Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Asp Leu Gly Ile Phe Asp Leu Trp Gly Gln Gly Thr Leu Val
100 105 110
Thr Val Ser Ser
115

<210> 163
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 163
ggattcacct tcactgacta ctac 24

<210> 164
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 164
Gly Phe Thr Phe Thr Asp Tyr Tyr
1 5

<210> 165
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 165
attggtactg gtggtgctgc caaa 24

<210> 166
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 166
Ile Gly Thr Gly Gly Ala Ala Lys
1 5

<210> 167
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 167
gcgagagatc tggggatctt tgactta 27

<210> 168
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 168
Ala Arg Asp Leu Gly Ile Phe Asp Leu
1 5

<210> 169

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

<220>
<223> Synthetic

<400> 169
gaaattgtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgta gggccagtca gagtgttagt agtagtttag cctggtacca ccagaaacct 120
ggccaggctc ccaggctcct catccatggt gtttccacca gggccactgg tatcccagcc 180
aggttcagtg gcactgggtc tgggacagaa ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcaacag tatcataact ggcctccgta cacttttggc 300
caggggacca agctggagat caaacga 327

<210> 170
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 170
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
            20   25   30
Leu Ala Trp Tyr His Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
His Gly Val Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Thr 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 His Asn Trp Pro Pro
                85   90   95
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 171
cagagtgtta gtagtagt 18

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

<220>
<223> Synthetic

<400> 172
Gln Ser Val Ser Ser Ser
 1   5

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

<220>
<223> Synthetic

<400> 173
ggtgtttcc 9

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

<220>
<223> Synthetic

<400> 174
Gly Val Ser
1

<210> 175
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 175
caacagtatc ataactggcc tccgtacact 30

<210> 176
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 176
Gln Gln Tyr His Asn Trp Pro Pro Tyr Thr
1 5 10

<210> 177
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 177
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt agttttggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtgtcaatg atatcaaccg atggaagtaa gaaaaattat 180
gcagactccg tgaagggccg attcaccatc accagagaca attcaaagaa cacgctgtat 240
ttggaaatga acagcctgag agctgaggac acggctgtgt attacggtgt gagagttggg 300
tactatgatt cggggagtta ttataactat tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 178
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 178
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Phe
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Met Ile Ser Thr Asp Gly Ser Lys Lys Asn Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Thr Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Glu Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Gly
                85   90   95
Val Arg Val Gly Tyr Tyr Asp Ser Gly Ser Tyr Tyr Asn Tyr Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 179
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 179
ggattcacct tcagtagttt tggc 24

<210> 180
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 180
Gly Phe Thr Phe Ser Ser Phe Gly
 1   5

<210> 181
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 181
atatcaaccg atggaagtaa gaaa 24

<210> 182
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 182
Ile Ser Thr Asp Gly Ser Lys Lys
 1   5

<210> 183
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 183
gtgagagttg ggtactatga ttcggggagt tattataact at 42

<210> 184
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 184
Val Arg Val Gly Tyr Tyr Asp Ser Gly Ser Tyr Tyr Asn Tyr
1 5 10

<210> 185
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 185
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggtga cagagtcacc 60
atcacttgtc gggcgagtca gggtattcgc agctggttag cctggtttca gcagagacca 120
gggaaagccc ctaacctcct gatctatgct gcatccagtt tgcaaagtgg ggtctcatcc 180
aggttcagcg gcagtggctc tgggacagaa ttcactctca gcatcagcag cctgcagcct 240
gaagattttg caacttacta ttgtcaacag gcttacagtt ttccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga 324

<210> 186
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 186
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Ser Trp
20 25 30
Leu Ala Trp Phe Gln Gln Arg Pro Gly Lys Ala Pro Asn Leu Leu Ile
35 40 45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Ser Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Ser Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Tyr Ser Phe Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 187
<211> 18
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 187
cagggtattc gcagctgg 18

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

<220>
<223> Synthetic

<400> 188
Gln Gly Ile Arg Ser Trp
 1   5

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

<220>
<223> Synthetic

<400> 189
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 190
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 191
caacaggctt acagttttcc gctcact 27

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

<220>
<223> Synthetic

<400> 192
Gln Gln Ala Tyr Ser Phe Pro Leu Thr
 1   5

<210> 193
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 193
gaggtgcagc tggtggagtc tgggggaggc ttggtgcggc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagg atctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcaggt attagtggta gtggtgataa tacatactat 180
acagactccg tgaagggccg gttcatcatc tccagagaca attccaagag cacgctgtat 240
ctgcaaatga acagcctgag agccgaagat acggccgtat attactgtgc gagagggtgg 300
gagttactga actactgggg ccagggaacc ctggtcaccg tctcctca 348

<210> 194
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 195
ggattcacct ttaggatcta tgcc 24

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

<220>
<223> Synthetic

<400> 196
Gly Phe Thr Phe Arg Ile Tyr Ala
 1   5

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

<220>
<223> Synthetic

<400> 197
attagtggta gtggtgataa taca 24

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

<220>
<223> Synthetic

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

<210> 199
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 199
gcgagagggt gggagttact gaactac 27

<210> 200
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 200
Ala Arg Gly Trp Glu Leu Leu Asn Tyr
1 5

<210> 201
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 201
gacatccaga tgacccagtc tccatcctca ctgtctgcat ttgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattagc aatcatttag cctggtttca gcagaaacca 120
gggaaagtcc ctaagtccct gatctatgct gcgtccagtt tgcaaagtgg ggtcccatca 180
aaattcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccaacag tatggtcttt atcctcccac tttcggccct 300
gggaccaaag tggatatcaa acga 324

<210> 202
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 202
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Phe Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn His
            20   25   30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Val 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 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 Gly Leu Tyr Pro Pro
                85   90   95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 203
caggacatta gcaatcat   18

<210> 204
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 204
Gln Asp Ile Ser Asn His
 1   5

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

<220>
<223> Synthetic

<400> 205
gctgcgtcc   9

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

<220>
<223> Synthetic

<400> 206
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 207
caacagtatg gtctttatcc tcccact 27

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

<220>
<223> Synthetic

<400> 208
Gln Gln Tyr Gly Leu Tyr Pro Pro Thr
1 5

<210> 209
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 209
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc cgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacttttagc atctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcaggt attagtggta gtggtggtag aacatactac 180
gcagactccg ttaagggccg gttcaccatc tctagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agtcgaggac acggccgttt attactgtgc gagagggtgg 300
gagcttctta acttctgggg ccagggaacc ctggtcaccg tctcctca 348

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

<220>
<223> Synthetic

<400> 210
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 Ile Tyr
20 25 30
Ala 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 Gly Arg Thr Tyr 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 Val Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Gly Trp Glu Leu Leu Asn Phe Trp Gly Gln Gly Thr Leu Val
100 105 110
Thr Val Ser Ser
115

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

<220>
<223> Synthetic

<400> 211
ggattcactt ttagcatcta tgcc 24

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

<220>
<223> Synthetic

<400> 212
Gly Phe Thr Phe Ser Ile Tyr Ala
1 5

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

<220>
<223> Synthetic

<400> 213
attagtggta gtggtggtag aaca 24

<210> 214
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 215
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 215
gcgagagggt gggagcttct taacttc 27

<210> 216
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 216

Ala Arg Gly Trp Glu Leu Leu Asn Phe
1 5

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

<220>
<223> Synthetic

<400> 217
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca gggcattagt aataatttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctatgct gcatccagtt tgaaaagtgg ggtcccatca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcaacag cctgcagcct 240
gaagattttg caacttatta ctgccaccag tataatagtt atcctcccac tttcggccct 300
gggaccaaag tggatatcaa 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 Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Asn
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 Lys Ser Gly Val Pro Ser Lys Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Tyr Asn Ser Tyr Pro Pro
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
100 105

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

<220>
<223> Synthetic

<400> 219
cagggcatta gtaataat 18

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

<220>
<223> Synthetic

<400> 220
Gln Gly Ile Ser Asn Asn
1 5

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

<220>
<223> Synthetic

<400> 221
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 222
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 223
caccagtata atagttatcc tcccact 27

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

<220>
<223> Synthetic

<400> 224
His Gln Tyr Asn Ser Tyr Pro Pro Thr
1 5

<210> 225
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 225
gaggtgcagc tggtggagtc tgggggaggc ttggtgcagc ctgggggtc cctgagactc 60
tcctgtgcag tctctggatt cacctttagc atctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attagtggta gtggtgataa gacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtat tttactgtgc gagagggtgg 300
gagctcctaa actactgggg ccagggaacc ctggtcaccg tctcctca 348

<210> 226
<211> 116
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 227
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 227
ggattcacct ttagcatcta tgcc 24

<210> 228
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 228
Gly Phe Thr Phe Ser Ile Tyr Ala
 1   5

<210> 229
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 229
attagtggta gtggtgataa gaca 24

<210> 230
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 230

Ile Ser Gly Ser Gly Asp Lys Thr
1 5

<210> 231
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 231
gcgagagggt gggagctcct aaactac 27

<210> 232
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 232
Ala Arg Gly Trp Glu Leu Leu Asn Tyr
1 5

<210> 233
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 233
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtct ggacattagt aatttttag cctggtttca gcagaaacca 120
gggacagccc ctaagtccct gatctattct gcatccagtt tgcggactgg ggtcccatca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccagcag tatagttctt accctcccac tttcggccct 300
gggaccaaag tggatatcaa acga 324

<210> 234
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 234
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 Leu Asp Ile Ser Asn Phe
20 25 30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Thr Ala Pro Lys Ser Leu Ile
35 40 45
Tyr Ser Ala Ser Ser Leu Arg Thr Gly Val 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 Ser Ser Tyr Pro Pro
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
100 105

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

<220>
<223> Synthetic

<400> 235
ctggacatta gtaatttt 18

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

<220>
<223> Synthetic

<400> 236
Leu Asp Ile Ser Asn Phe
 1   5

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

<220>
<223> Synthetic

<400> 237
tctgcatcc 9

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

<220>
<223> Synthetic

<400> 238
Ser Ala Ser
 1

<210> 239
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 239
cagcagtata gttcttaccc tcccact 27

<210> 240
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 240
Gln Gln Tyr Ser Ser Tyr Pro Pro Thr
 1   5

<210> 241
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 241
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ccgggggtc cctgagactc 60
tcctgtgtag cctctggatt caactttaga atctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggccggagtg ggtctcaggt attagtggta gtggtgataa cacatactac 180
gcagcctccg tgaagggccg gttcaccgtc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga ccagcctgag agccgaggac acggccgtat tttactgtgc gagagggtgg 300
gagctcctaa actattgggg ccagggaacc ctggtcaccg tctcctca   348

<210> 242
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 243
ggattcaact ttagaatcta tgcc   24

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

<220>
<223> Synthetic

<400> 244

Gly Phe Asn Phe Arg Ile Tyr Ala
1 5

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

<220>
<223> Synthetic

<400> 245
attagtggta gtggtgataa caca 24

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

<220>
<223> Synthetic

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

<210> 247
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 247
gcgagagggt gggagctcct aaactat 27

<210> 248
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 248
Ala Arg Gly Trp Glu Leu Leu Asn Tyr
1 5

<210> 249
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 249
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtct ggacattggc aatttttag cctggtttca gcagaaacca 120
gggacagccc ctaagtccct gatctattct gcatccagtc tgcagactgg ggtcccatca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccaacag tataattctt atcctcccac tttcggccct 300
gggaccaaag tggatatcaa acga 324

<210> 250
<211> 108
<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
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Leu Asp Ile Gly Asn Phe
            20   25   30
Leu Ala Trp Phe Gln Gln Lys Pro Gly Thr Ala Pro Lys Ser Leu Ile
        35   40   45
Tyr Ser Ala Ser Ser Leu Gln Thr Gly Val 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 Ser Tyr Pro Pro
                85   90   95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
            100   105

<210> 251
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 251
ctggacattg gcaatttt   18

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

<220>
<223> Synthetic

<400> 252
Leu Asp Ile Gly Asn Phe
 1   5

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

<220>
<223> Synthetic

<400> 253
tctgcatcc   9

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

<220>
<223> Synthetic

<400> 254
Ser Ala Ser
 1

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

<220>
<223> Synthetic

<400> 255
caacagtata attcttatcc tcccact 27

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

<220>
<223> Synthetic

<400> 256
Gln Gln Tyr Asn Ser Tyr Pro Pro Thr
 1   5

<210> 257
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 257
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc cgggggggtc cctgagactc 60
tcctgtgcag cctctggatt tacctttaaa atctatgcca tgagttgggt ccgccagggc 120
ccagggaagg ggctggagtg ggtctcggct attagtggaa atggtgacaa aacatactat 180
acagactccg tgcagggccg gttcaccatc tccagagaca attccaagaa cacactcttt 240
ctccaaatga acagcctgag agccgaggac acggccatat attactgtgc gcgagggtgg 300
gaactgctaa attactgggg ccagggaacc ctggtcaccg tctcctca 348

<210> 258
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 258
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 Lys Ile Tyr
            20   25   30
Ala Met Ser Trp Val Arg Gln Gly Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Ser Gly Asn Gly Asp Lys Thr Tyr Tyr Thr Asp Ser Val
    50   55   60
Gln Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
                85   90   95
Ala Arg Gly Trp Glu Leu Leu Asn Tyr Trp Gly Gln Gly Thr Leu Val
            100   105   110

Thr Val Ser Ser
        115

<210> 259
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 259
ggatttacct ttaaaatcta tgcc 24

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

<220>
<223> Synthetic

<400> 260
Gly Phe Thr Phe Lys Ile Tyr Ala
 1   5

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

<220>
<223> Synthetic

<400> 261
attagtggaa atggtgacaa aaca 24

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

<220>
<223> Synthetic

<400> 262
Ile Ser Gly Asn Gly Asp Lys Thr
 1   5

<210> 263
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 263
gcgcgagggt gggaactgct aaattac 27

<210> 264
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 264
Ala Arg Gly Trp Glu Leu Leu Asn Tyr
 1   5

<210> 265
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 265
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctataggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattagc aattctttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatctccag cctgcagcct 240
gaagattttg caacttatta ctgccaacaa tatattcctt tccctcccac tttcggccct 300
gggaccaaag tggatatcaa acga   324

<210> 266
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 266
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Asn Ser
            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 Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ile Pro Phe Pro Pro
                85   90   95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 267
caggacatta gcaattct   18

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

<220>
<223> Synthetic

<400> 268
Gln Asp Ile Ser Asn Ser
 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
caacaatata ttcctttccc tcccact   27

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

<220>
<223> Synthetic

<400> 272
Gln Gln Tyr Ile Pro Phe Pro Pro Thr
 1   5

<210> 273
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 273
gaggtgcagc tggtggagtc tgggggaggc ctggtacagc cgggggggtc cctgagactc 60
tcctgtgtag cttctggatt cacctttacc agctatgcca tgagctgggt ccgccaggct 120
ccagggaggg ggctgcagtg ggtctcagct attggtggta gtggtgatag tatatattac 180
gcagactccg tcaagggccg gttcaccatc tccagagaca actccaagaa tacgctgtat 240
ctgcaaatgg acagcctgag agccgaggac acggccgtat attactgtgc aagaggatgg 300
gagttactca attactgggg ccagggaacc ctggtcaccg tctcctca   348

<210> 274
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 274
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 Val Ala Ser Gly Phe Thr Phe Thr Ser Tyr
            20   25   30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Arg Gly Leu Gln Trp Val
        35   40   45
Ser Ala Ile Gly Gly Ser Gly Asp Ser Ile Tyr 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 Asp Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Gly Trp Glu Leu Leu Asn Tyr Trp Gly Gln Gly Thr Leu Val
            100   105   110
Thr Val Ser Ser
        115

<210> 275
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 275
ggattcacct ttaccagcta tgcc   24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 277
attggtggta gtggtgatag tata   24

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

<220>
<223> Synthetic

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

<210> 279
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 279
gcaagaggat gggagttact caattac   27

<210> 280
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 280
Ala Arg Gly Trp Glu Leu Leu Asn Tyr
 1   5

<210> 281
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 281
gacatccaga tgacccagtc tccatcctca ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattggc aatttttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctatgct gcatccagtt tgaaaagtgg ggtcccatca 180
aagatcagcg gcagtggatc tgggacagat ttcactctca ccatcaacag cctgcagcct 240
gaagattttg caacttatta ctgccaacag tataatattt accctcccac tttcggccct 300
gggaccaaag tggatatcaa acga   324

<210> 282
<211> 108
<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 Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Gly Asn Phe
            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 Lys Ser Gly Val Pro Ser Lys Ile Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Pro Pro

85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg
100 105

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

<220>
<223> Synthetic

<400> 283
caggacattg gcaatttt 18

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

<220>
<223> Synthetic

<400> 284
Gln Asp Ile Gly Asn Phe
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
caacagtata atatttaccc tcccact 27

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

<220>
<223> Synthetic

<400> 288
Gln Gln Tyr Asn Ile Tyr Pro Pro Thr
 1   5

<210> 289
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 289
caggtacagc tgcagcagtc aggtccagga ctggtgaagc cctcgcagac cctctcactc 60
acctgtgcca tctccgggga cagtgtctct agcaacagtg ctgcttggaa ctggatcagg 120
cagtccccat cgagaggcct tgagtggctg ggaaggacat actacaggtc caagtggtat 180
catgattatg ctttttctgt gaaaagtcga atacttatca atccagacac atccaagaac 240
ctgttctccc tgcaagtgaa ctctgtgact cccgaggaca cggctgtgta ttactgtgca 300
agagataggc gatcctactt tgactactgg ggccagggaa ccctggtcac cgtctcctca 360

<210> 290
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 290
Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn
            20   25   30
Ser Ala Ala Trp Asn Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu
        35   40   45
Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr His Asp Tyr Ala
    50   55   60
Phe Ser Val Lys Ser Arg Ile Leu Ile Asn Pro Asp Thr Ser Lys Asn
65   70   75   80
Leu Phe Ser Leu Gln Val Asn Ser Val Thr Pro Glu Asp Thr Ala Val
                85   90   95
Tyr Tyr Cys Ala Arg Asp Arg Arg Ser Tyr Phe Asp Tyr Trp Gly Gln
            100   105   110
Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 291
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 291
ggggacagtg tctctagcaa cagtgctgct   30

<210> 292
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 292
Gly Asp Ser Val Ser Ser Asn Ser Ala Ala
 1   5   10

<210> 293
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 293
acatactaca ggtccaagtg gtatcat   27

<210> 294
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 294
Thr Tyr Tyr Arg Ser Lys Trp Tyr His
 1   5

<210> 295
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 295
gcaagagata ggcgatccta ctttgactac   30

<210> 296
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 296
Ala Arg Asp Arg Arg Ser Tyr Phe Asp Tyr
 1   5   10

<210> 297
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 297
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtcg gagtgttagc agttccttag cctggtacca acagaaacct 120

ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcggtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cgtaacaact ggcctcccac ttttggccag 300
gggaccaagc tggagatcaa acga 324

<210> 298
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 299
cggagtgtta gcagttcc 18

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

<220>
<223> Synthetic

<400> 300
Arg Ser Val Ser Ser Ser
 1   5

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

<220>
<223> Synthetic

<400> 301
gatgcatcc 9

<210> 302
<211> 3
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 302
Asp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 303
cagcagcgta acaactggcc tcccact 27

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

<220>
<223> Synthetic

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

<210> 305
<211> 369
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 305
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
tcctgtacag cctctggatt cgtttttgaa gattatgcca tgcactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaggt attagttgga atagtggtag gataggctat 180
acggactctg tgaagggccg attcaccgtc tccagagaca acgccaagaa ctccttgtat 240
ctgcaaatga acagtctgac aactgaggac acggccttgt attattgtgc aaaagataaa 300
tcgccctcta agtggaactt actaggtatg gacgtctggg gccaagggac cacggtcacc 360
gtctcctca 369

<210> 306
<211> 123
<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 Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Val Phe Glu 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 Gly Ile Ser Trp Asn Ser Gly Arg Ile Gly Tyr Thr Asp Ser Val
    50   55   60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Thr Thr Glu Asp Thr Ala Leu Tyr Tyr Cys
85 90 95
Ala Lys Asp Lys Ser Pro Ser Lys Trp Asn Leu Leu Gly Met Asp Val
100 105 110
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

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

<220>
<223> Synthetic

<400> 307
ggattcgttt ttgaagatta tgcc 24

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

<220>
<223> Synthetic

<400> 308
Gly Phe Val Phe Glu Asp Tyr Ala
1 5

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

<220>
<223> Synthetic

<400> 309
attagttgga atagtggtag gata 24

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

<220>
<223> Synthetic

<400> 310
Ile Ser Trp Asn Ser Gly Arg Ile
1 5

<210> 311
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 311
gcaaaagata aatcgccctc taagtggaac ttactaggta tggacgtc 48

<210> 312
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 312
Ala Lys Asp Lys Ser Pro Ser Lys Trp Asn Leu Leu Gly Met Asp Val
 1   5   10   15

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

<220>
<223> Synthetic

<400> 313
gccatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca ggacattaga aatgatttag gctggtttca gcagaaacca 120
gggagagccc ctaacctcct aatctttggt gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcagcgg cctgcagcct 240
gaagattttt caacttatta ctgtctacaa gattacactt acccattcac tttcggccct 300
gggaccaaag tggatatcaa acga   324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 315
caggacatta gaaatgat   18

<210> 316
<211> 6

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 316
Gln Asp Ile Arg Asn Asp
 1   5

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

<220>
<223> Synthetic

<400> 317
ggtgcatcc   9

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

<220>
<223> Synthetic

<400> 318
Gly Ala Ser
 1

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

<220>
<223> Synthetic

<400> 319
ctacaagatt acacttaccc attcact   27

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

<220>
<223> Synthetic

<400> 320
Leu Gln Asp Tyr Thr Tyr Pro Phe Thr
 1   5

<210> 321
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 321

caggtgcagc tggtgcagtc tggggctgag gtacagaagc ccggggcgtc agtgaaagtc 60
tcctgcaagg cttctggata caccttcacc gactactata ttcattgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggatgg atcaacccta aaactggtgg cacaaactat 180
gcaccgaagt ttcagggcag ggtcaccatg accagggact cgtccatcat cacagcctac 240
atggacttga ccagactgac ctctgacgac acggccgtgt tttactgtgc gagacgggga 300
tataatagta ggtggtccgt ttttgactac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 322
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 322
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Gln Lys Pro Gly Ala
 1   5   10   15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
            20   25   30
Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
        35   40   45
Gly Trp Ile Asn Pro Lys Thr Gly Gly Thr Asn Tyr Ala Pro Lys Phe
    50   55   60
Gln Gly Arg Val Thr Met Thr Arg Asp Ser Ser Ile Ile Thr Ala Tyr
65   70   75   80
Met Asp Leu Thr Arg Leu Thr Ser Asp Asp Thr Ala Val Phe Tyr Cys
                85   90   95
Ala Arg Arg Gly Tyr Asn Ser Arg Trp Ser Val Phe Asp Tyr Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 323
ggatacacct tcaccgacta ctat 24

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

<220>
<223> Synthetic

<400> 324
Gly Tyr Thr Phe Thr Asp Tyr Tyr
 1   5

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

<220>
<223> Synthetic

<400> 325

atcaacccta aaactggtgg caca 24

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

<220>
<223> Synthetic

<400> 326
Ile Asn Pro Lys Thr Gly Gly Thr
1 5

<210> 327
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 327
gcgagacggg gatataatag taggtggtcc gtttttgact ac 42

<210> 328
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 328
Ala Arg Arg Gly Tyr Asn Ser Arg Trp Ser Val Phe Asp Tyr
1 5 10

<210> 329
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 329
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgta gggccagtca gagtgtttac agcaactact tagcctggta ccagcagaaa 120
cgtggcctgg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgta ttactgtcag cagcatggtg gctcaccggt cactttcggc 300
ggagggacca aggtggagat caaacga 327

<210> 330
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 330
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Tyr Ser Asn
20 25 30

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

<210> 331
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 331
cagagtgttt acagcaacta c 21

<210> 332
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 332
Gln Ser Val Tyr Ser Asn Tyr
1 5

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

<220>
<223> Synthetic

<400> 333
ggtgcatcc 9

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

<220>
<223> Synthetic

<400> 334
Gly Ala Ser
1

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

<220>
<223> Synthetic

<400> 335
cagcagcatg gtggctcacc ggtcact 27

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

<220>
<223> Synthetic

<400> 336
Gln Gln His Gly Gly Ser Pro Val Thr
 1   5

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

<220>
<223> Synthetic

<400> 337
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgaag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaacg ggctggagtg gatcgcagtt atatcatctg atggaaataa taaatattat 180
atagaatccg tgaagggccg attcaccatg tccagagaca attccaagaa cacgctgtat 240
ctgcaattga acagcctgag aactgaggac acggctgtgt attactgtgc gacttacaac 300
tggaacgacg acggggacgg ggtttttgac tactggggcc agggaaccct 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 Glu Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Asn Gly Leu Glu Trp Ile
        35   40   45
Ala Val Ile Ser Ser Asp Gly Asn Asn Lys Tyr Tyr Ile Glu Ser Val
    50   55   60
Lys Gly Arg Phe Thr Met Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Leu Asn Ser Leu Arg Thr Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Thr Tyr Asn Trp Asn Asp Asp Gly Asp Gly Val Phe Asp Tyr Trp
            100   105   110
Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 339
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 339
ggattcacct tcagtagcta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 341
atatcatctg atggaaataa taaa 24

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

<220>
<223> Synthetic

<400> 342
Ile Ser Ser Asp Gly Asn Asn Lys
1 5

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

<220>
<223> Synthetic

<400> 343
gcgacttaca actggaacga cgacggggac ggggtttttg actac 45

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

<220>
<223> Synthetic

<400> 344
Ala Thr Tyr Asn Trp Asn Asp Asp Gly Asp Gly Val Phe Asp Tyr
1 5 10 15

<210> 345
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 345
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca gggtattagc aactggttag cctggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatggt acatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttacta ttgtcaacag gttaagagtt tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa acga 324

<210> 346
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 346
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Gly Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Val Lys Ser Phe Pro Tyr
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 347
cagggtatta gcaactgg 18

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

<220>
<223> Synthetic

<400> 348
Gln Gly Ile Ser Asn Trp
 1   5

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

<220>
<223> Synthetic

<400> 349
ggtacatcc 9

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

<220>
<223> Synthetic

<400> 350
Gly Thr Ser
1

<210> 351
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 351
caacaggtta agagtttccc gtacact 27

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

<220>
<223> Synthetic

<400> 352
Gln Gln Val Lys Ser Phe Pro Tyr Thr
1 5

<210> 353
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 353
gaggtgcagc tggtggagtc ggggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agatatggca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attagtggta gtggtggtag cacataccac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacactgtat 240
ctgcaaatga atagcctgag agccgcggac acggccatat atttctgtgc gtcttacaat 300
tggaacgacg gggtggacgt ctggggccaa gggaccacgg tcaccgtctc ctca 354

<210> 354
<211> 117
<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 Gly Phe Thr Phe Ser Arg Tyr
20 25 30
Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr His 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 Ala Asp Thr Ala Ile Tyr Phe Cys
85 90 95
Ala Ser Tyr Asn Trp Asn Asp Gly Val Asp Val Trp Gly Gln Gly Thr
100 105 110
Thr Val Thr Val Ser
115

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

<220>
<223> Synthetic

<400> 355
ggattcacct ttagcagata tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 357
attagtggta gtggtggtag caca 24

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

<220>
<223> Synthetic

<400> 358
Ile Ser Gly Ser Gly Gly Ser Thr
1 5

<210> 359
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 359
gcgtcttaca attggaacga cggggtggac gtc 33

<210> 360
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 360
Ala Ser Tyr Asn Trp Asn Asp Gly Val Asp Val
1 5 10

<210> 361
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 361
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctataggaga cagggtcacc 60
atcacttgtc gggcgagtca gggtattagc aactggttag cctggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatggt gcatccagtt tgcaaagtgg agtctcatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcatcag ccttcagcct 240
gaagattttg caacttacta ttgtcaacag gctaacagtt tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa acga 324

<210> 362
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 363
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 363
cagggtatta gcaactgg 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 365
ggtgcatcc 9

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

<220>
<223> Synthetic

<400> 366
Gly Ala Ser
1

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

<220>
<223> Synthetic

<400> 367
caacaggcta acagtttccc gtacact 27

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

<220>
<223> Synthetic

<400> 368
Gln Gln Ala Asn Ser Phe Pro Tyr Thr
1 5

<210> 369
<211> 214
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 369
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Trp
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100   105   110
Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115   120   125
Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130   135   140
Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145   150   155   160
Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165   170   175
Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180   185   190
Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195   200   205
Phe Asn Arg Gly Glu Cys
    210

<210> 370
<211> 452
<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 Ser Phe Ser Asn Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Leu Ile Trp Tyr Asp Gly Ser Asn Glu Asp Tyr Thr 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 Val Tyr Tyr Cys
                85   90   95
Ala Arg Trp Gly Met Val Arg Gly Val Ile Asp Val Phe Asp Ile Trp
            100   105   110
Gly Gln Gly Thr Val Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
        115   120   125
Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr
    130   135   140
Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
145   150   155   160
Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
                165   170   175
Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr

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            180                 185                 190
Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn
        195                 200                 205
His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser
    210                 215                 220
Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu
225                 230                 235                 240
Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
                245                 250                 255
Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
            260                 265                 270
His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
        275                 280                 285
Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
    290                 295                 300
Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
305                 310                 315                 320
Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
                325                 330                 335
Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
            340                 345                 350
Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val
        355                 360                 365
Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
    370                 375                 380
Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
385                 390                 395                 400
Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
                405                 410                 415
Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
            420                 425                 430
Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
        435                 440                 445
Ser Pro Gly Lys
    450


<210> 371
<211> 215
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 371
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1                5                  10                  15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
            20                  25                  30
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
        35                  40                  45
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50                  55                  60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65                  70                  75                  80
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Thr
                85                  90                  95
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala
            100                 105                 110
Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
        115                 120                 125
Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
    130                 135                 140
Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser
145                 150                 155                 160
Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu
                165                 170                 175
```

Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val
180 185 190
Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys
195 200 205
Ser Phe Asn Arg Gly Glu Cys
210 215

<210> 372
<211> 449
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 372
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Ser Gly Glu
1 5 10 15
Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser Phe Thr Ser Tyr
20 25 30
Trp Ile Gly Trp Val Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Met
35 40 45
Gly Ile Phe Tyr Pro Gly Asp Ser Ser Thr Arg Tyr Ser Pro Ser Phe
50 55 60
Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Val Asn Thr Ala Tyr
65 70 75 80
Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys
85 90 95
Ala Arg Arg Arg Asn Trp Gly Asn Ala Phe Asp Ile Trp Gly Gln Gly
100 105 110
Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115 120 125
Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
130 135 140
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145 150 155 160
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
165 170 175
Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
180 185 190
Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
195 200 205
Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys
210 215 220
Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro
225 230 235 240
Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
245 250 255
Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
260 265 270
Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
275 280 285
Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
290 295 300
Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
305 310 315 320
Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
325 330 335
Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
340 345 350
Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr
355 360 365
Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
370 375 380
Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu
385 390 395 400
Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys

405 410 415
Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
420 425 430
Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
435 440 445
Lys

<210> 373
<211> 213
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 373
Asn Ile Val Met Thr Gln Ser Pro Lys Ser Met Ser Met Ser Val Gly
1 5 10 15
Glu Arg Val Thr Phe Asn Cys Arg Ala Ser Glu Asn Val Gly Thr Tyr
20 25 30
Val Phe Trp Tyr Gln Gln Lys Pro Glu Gln Ser Pro Arg Leu Leu Ile
35 40 45
Tyr Gly Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Thr Gly
50 55 60
Ser Gly Ser Ala Thr Asp Phe Thr Leu Thr Ile Ser Gly Val Gln Ala
65 70 75 80
Glu Asp Leu Ala Asp Tyr His Cys Gly Gln Ser Tyr Arg His Leu Thr
85 90 95
Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala Pro
100 105 110
Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly Gly
115 120 125
Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile Asn
130 135 140
Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu Asn
145 150 155 160
Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser Ser
165 170 175
Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr Thr
180 185 190
Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser Phe
195 200 205
Asn Arg Gly Glu Cys
210

<210> 374
<211> 449
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 374
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15
Ser Val Arg Leu Ser Cys Lys Ala Gly Gly Tyr Thr Phe Thr Ser Tyr
20 25 30
Trp Leu His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45
Gly Met Ile His Pro Asn Ser Gly Ser Tyr Asp Tyr Ser Glu Thr Phe
50 55 60
Arg Thr Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Asp Thr Ala Tyr
65 70 75 80
Met Gln Leu Thr Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys

```
                85                  90                  95
Ala Arg Gly Gly Ser Asn Tyr Asp Ile Phe Ala Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Ala Pro Ser Val Tyr
        115                 120                 125
Pro Leu Ala Pro Val Cys Gly Asp Thr Thr Gly Ser Ser Val Thr Leu
    130                 135                 140
Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Leu Thr Trp
145                 150                 155                 160
Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu
                165                 170                 175
Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Thr Ser Ser
            180                 185                 190
Thr Trp Pro Ser Gln Ser Ile Thr Cys Asn Val Ala His Pro Ala Ser
        195                 200                 205
Ser Thr Lys Val Asp Lys Lys Ile Glu Pro Arg Gly Pro Thr Ile Lys
    210                 215                 220
Pro Cys Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro
225                 230                 235                 240
Ser Val Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser
                245                 250                 255
Leu Ser Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp
            260                 265                 270
Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr
        275                 280                 285
Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val
    290                 295                 300
Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu
305                 310                 315                 320
Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg
                325                 330                 335
Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val
            340                 345                 350
Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Thr
        355                 360                 365
Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr
    370                 375                 380
Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val Leu
385                 390                 395                 400
Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val Glu Lys
                405                 410                 415
Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu
            420                 425                 430
Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly
        435                 440                 445
Lys
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<210> 375
<211> 863
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 375

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Phe Asn Leu Val Thr Gly Trp Gln Thr Ile Asn Gly Lys Lys Tyr Tyr
 1               5                  10                  15
Phe Asp Ile Asn Thr Gly Ala Ala Leu Ile Ser Tyr Lys Ile Ile Asn
            20                  25                  30
Gly Lys His Phe Tyr Phe Asn Asn Asp Gly Val Met Gln Leu Gly Val
        35                  40                  45
Phe Lys Gly Pro Asp Gly Phe Glu Tyr Phe Ala Pro Ala Asn Thr Gln
    50                  55                  60
Asn Asn Asn Ile Glu Gly Gln Ala Ile Val Tyr Gln Ser Lys Phe Leu
65                  70                  75                  80
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Thr Leu Asn Gly Lys Lys Tyr Tyr Phe Asp Asn Asp Ser Lys Ala Val
                85                  90                  95
Thr Gly Trp Arg Ile Ile Asn Asn Glu Lys Tyr Tyr Phe Asn Pro Asn
            100                 105                 110
Asn Ala Ile Ala Ala Val Gly Leu Gln Val Ile Asp Asn Asn Lys Tyr
        115                 120                 125
Tyr Phe Asn Pro Asp Thr Ala Ile Ile Ser Lys Gly Trp Gln Thr Val
    130                 135                 140
Asn Gly Ser Arg Tyr Tyr Phe Asp Thr Asp Thr Ala Ile Ala Phe Asn
145                 150                 155                 160
Gly Tyr Lys Thr Ile Asp Gly Lys His Phe Tyr Phe Asp Ser Asp Cys
                165                 170                 175
Val Val Lys Ile Gly Val Phe Ser Thr Ser Asn Gly Phe Glu Tyr Phe
            180                 185                 190
Ala Pro Ala Asn Thr Tyr Asn Asn Asn Ile Glu Gly Gln Ala Ile Val
        195                 200                 205
Tyr Gln Ser Lys Phe Leu Thr Leu Asn Gly Lys Lys Tyr Tyr Phe Asp
    210                 215                 220
Asn Asn Ser Lys Ala Val Thr Gly Trp Gln Thr Ile Asp Ser Lys Lys
225                 230                 235                 240
Tyr Tyr Phe Asn Thr Asn Thr Ala Glu Ala Ala Thr Gly Trp Gln Thr
                245                 250                 255
Ile Asp Gly Lys Lys Tyr Tyr Phe Asn Thr Asn Thr Ala Glu Ala Ala
            260                 265                 270
Thr Gly Trp Gln Thr Ile Asp Gly Lys Lys Tyr Tyr Phe Asn Thr Asn
        275                 280                 285
Thr Ala Ile Ala Ser Thr Gly Tyr Thr Ile Ile Asn Gly Lys His Phe
    290                 295                 300
Tyr Phe Asn Thr Asp Gly Ile Met Gln Ile Gly Val Phe Lys Gly Pro
305                 310                 315                 320
Asn Gly Phe Glu Tyr Phe Ala Pro Ala Asn Thr Asp Ala Asn Asn Ile
                325                 330                 335
Glu Gly Gln Ala Ile Leu Tyr Gln Asn Glu Phe Leu Thr Leu Asn Gly
            340                 345                 350
Lys Lys Tyr Tyr Phe Gly Ser Asp Ser Lys Ala Val Thr Gly Trp Arg
        355                 360                 365
Ile Ile Asn Asn Lys Lys Tyr Tyr Phe Asn Pro Asn Asn Ala Ile Ala
    370                 375                 380
Ala Ile His Leu Cys Thr Ile Asn Asn Asp Lys Tyr Tyr Phe Ser Tyr
385                 390                 395                 400
Asp Gly Ile Leu Gln Asn Gly Tyr Ile Thr Ile Glu Arg Asn Asn Phe
                405                 410                 415
Tyr Phe Asp Ala Asn Asn Glu Ser Lys Met Val Thr Gly Val Phe Lys
            420                 425                 430
Gly Pro Asn Gly Phe Glu Tyr Phe Ala Pro Ala Asn Thr His Asn Asn
        435                 440                 445
Asn Ile Glu Gly Gln Ala Ile Val Tyr Gln Asn Lys Phe Leu Thr Leu
    450                 455                 460
Asn Gly Lys Lys Tyr Tyr Phe Asp Asn Asp Ser Lys Ala Val Thr Gly
465                 470                 475                 480
Trp Gln Thr Ile Asp Gly Lys Lys Tyr Tyr Phe Asn Leu Asn Thr Ala
                485                 490                 495
Glu Ala Ala Thr Gly Trp Gln Thr Ile Asp Gly Lys Lys Tyr Tyr Phe
            500                 505                 510
Asn Leu Asn Thr Ala Glu Ala Ala Thr Gly Trp Gln Thr Ile Asp Gly
        515                 520                 525
Lys Lys Tyr Tyr Phe Asn Thr Asn Thr Phe Ile Ala Ser Thr Gly Tyr
    530                 535                 540
Thr Ser Ile Asn Gly Lys His Phe Tyr Phe Asn Thr Asp Gly Ile Met
545                 550                 555                 560
Gln Ile Gly Val Phe Lys Gly Pro Asn Gly Phe Glu Tyr Phe Ala Pro
                565                 570                 575
Ala Asn Thr His Asn Asn Asn Ile Glu Gly Gln Ala Ile Leu Tyr Gln
            580                 585                 590
Asn Lys Phe Leu Thr Leu Asn Gly Lys Lys Tyr Tyr Phe Gly Ser Asp
        595                 600                 605
Ser Lys Ala Val Thr Gly Leu Arg Thr Ile Asp Gly Lys Lys Tyr Tyr
    610                 615                 620
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Phe Asn Thr Asn Thr Ala Val Ala Val Thr Gly Trp Gln Thr Ile Asn
625                 630                 635                 640
Gly Lys Lys Tyr Tyr Phe Asn Thr Asn Thr Ser Ile Ala Ser Thr Gly
                645                 650                 655
Tyr Thr Ile Ile Ser Gly Lys His Phe Tyr Phe Asn Thr Asp Gly Ile
            660                 665                 670
Met Gln Ile Gly Val Phe Lys Gly Pro Asp Gly Phe Glu Tyr Phe Ala
        675                 680                 685
Pro Ala Asn Thr Asp Ala Asn Asn Ile Glu Gly Gln Ala Ile Arg Tyr
    690                 695                 700
Gln Asn Arg Phe Leu Tyr Leu His Asp Asn Ile Tyr Tyr Phe Gly Asn
705                 710                 715                 720
Asn Ser Lys Ala Ala Thr Gly Trp Val Thr Ile Asp Gly Asn Arg Tyr
                725                 730                 735
Tyr Phe Glu Pro Asn Thr Ala Met Gly Ala Asn Gly Tyr Lys Thr Ile
            740                 745                 750
Asp Asn Lys Asn Phe Tyr Phe Arg Asn Gly Leu Pro Gln Ile Gly Val
        755                 760                 765
Phe Lys Gly Ser Asn Gly Phe Glu Tyr Phe Ala Pro Ala Asn Thr Asp
    770                 775                 780
Ala Asn Asn Ile Glu Gly Gln Ala Ile Arg Tyr Gln Asn Arg Phe Leu
785                 790                 795                 800
His Leu Leu Gly Lys Ile Tyr Tyr Phe Gly Asn Asn Ser Lys Ala Val
                805                 810                 815
Thr Gly Trp Gln Thr Ile Asn Gly Lys Val Tyr Tyr Phe Met Pro Asp
            820                 825                 830
Thr Ala Met Ala Ala Ala Gly Gly Leu Phe Glu Ile Asp Gly Val Ile
        835                 840                 845
Tyr Phe Phe Gly Val Asp Gly Val Lys Ala Pro Gly Ile Tyr Gly
    850                 855                 860


<210> 376
<211> 516
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 376
Asn Leu Ile Thr Gly Phe Val Thr Val Gly Asp Asp Lys Tyr Tyr Phe
 1               5                  10                  15
Asn Pro Ile Asn Gly Gly Ala Ala Ser Ile Gly Glu Thr Ile Ile Asp
            20                  25                  30
Asp Lys Asn Tyr Tyr Phe Asn Gln Ser Gly Val Leu Gln Thr Gly Val
        35                  40                  45
Phe Ser Thr Glu Asp Gly Phe Lys Tyr Phe Ala Pro Ala Asn Thr Leu
    50                  55                  60
Asp Glu Asn Leu Glu Gly Glu Ala Ile Asp Phe Thr Gly Lys Leu Ile
65                  70                  75                  80
Ile Asp Glu Asn Ile Tyr Tyr Phe Asp Asp Asn Tyr Arg Gly Ala Val
                85                  90                  95
Glu Trp Lys Glu Leu Asp Gly Glu Met His Tyr Phe Ser Pro Glu Thr
            100                 105                 110
Gly Lys Ala Phe Lys Gly Leu Asn Gln Ile Gly Asp Tyr Lys Tyr Tyr
        115                 120                 125
Phe Asn Ser Asp Gly Val Met Gln Lys Gly Phe Val Ser Ile Asn Asp
    130                 135                 140
Asn Lys His Tyr Phe Asp Asp Ser Gly Val Met Lys Val Gly Tyr Thr
145                 150                 155                 160
Glu Ile Asp Gly Lys His Phe Tyr Phe Ala Glu Asn Gly Glu Met Gln
                165                 170                 175
Ile Gly Val Phe Asn Thr Glu Asp Gly Phe Lys Tyr Phe Ala His His
            180                 185                 190
Asn Glu Asp Leu Gly Asn Glu Glu Gly Glu Glu Ile Ser Tyr Ser Gly
        195                 200                 205
Ile Leu Asn Phe Asn Asn Lys Ile Tyr Tyr Phe Asp Asp Ser Phe Thr
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    210                 215                 220
Ala Val Val Gly Trp Lys Asp Leu Glu Asp Gly Ser Lys Tyr Tyr Phe
225                 230                 235                 240
Asp Glu Asp Thr Ala Glu Ala Tyr Ile Gly Leu Ser Leu Ile Asn Asp
                245                 250                 255
Gly Gln Tyr Tyr Phe Asn Asp Asp Gly Ile Met Gln Val Gly Phe Val
            260                 265                 270
Thr Ile Asn Asp Lys Val Phe Tyr Phe Ser Asp Ser Gly Ile Ile Glu
        275                 280                 285
Ser Gly Val Gln Asn Ile Asp Asp Asn Tyr Phe Tyr Ile Asp Asp Asn
    290                 295                 300
Gly Ile Val Gln Ile Gly Val Phe Asp Thr Ser Asp Gly Tyr Lys Tyr
305                 310                 315                 320
Phe Ala Pro Ala Asn Thr Val Asn Asp Asn Ile Tyr Gly Gln Ala Val
                325                 330                 335
Glu Tyr Ser Gly Leu Val Arg Val Gly Glu Asp Val Tyr Tyr Phe Gly
            340                 345                 350
Glu Thr Tyr Thr Ile Glu Thr Gly Trp Ile Tyr Asp Met Glu Asn Glu
        355                 360                 365
Ser Asp Lys Tyr Tyr Phe Asn Pro Glu Thr Lys Lys Ala Cys Lys Gly
    370                 375                 380
Ile Asn Leu Ile Asp Asp Ile Lys Tyr Tyr Phe Asp Glu Lys Gly Ile
385                 390                 395                 400
Met Arg Thr Gly Leu Ile Ser Phe Glu Asn Asn Asn Tyr Tyr Phe Asn
                405                 410                 415
Glu Asn Gly Glu Met Gln Phe Gly Tyr Ile Asn Ile Glu Asp Lys Met
            420                 425                 430
Phe Tyr Phe Gly Glu Asp Gly Val Met Gln Ile Gly Val Phe Asn Thr
        435                 440                 445
Pro Asp Gly Phe Lys Tyr Phe Ala His Gln Asn Thr Leu Asp Glu Asn
    450                 455                 460
Phe Glu Gly Glu Ser Ile Asn Tyr Thr Gly Trp Leu Asp Leu Asp Glu
465                 470                 475                 480
Lys Arg Tyr Tyr Phe Thr Asp Glu Tyr Ile Ala Ala Thr Gly Ser Val
                485                 490                 495
Ile Ile Asp Gly Glu Glu Tyr Tyr Phe Asp Pro Asp Thr Ala Gln Leu
            500                 505                 510
Val Ile Ser Glu
        515
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<210> 377
<211> 8133
<212> DNA
<213> Clostridium difficile

<400> 377

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atgtctttaa tatctaaaga agagttaata aaactcgcat atagcattag accaagagaa 60
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aatgaaaata aatatttaca attaaaaaaa ctaaatgaat caattgatgt ttttatgaat 180
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gaagtaattc ttattaaaaa ttccaataca agccctgtag aaaaaaattt acattttgta 300
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gaatcatata gaacaaattc tttgagaaaa ataaatagta atcatgggat agatatcagg 720
gctaatagtt tgtttacaga acaagagtta ttaaatattt atagtcagga gttgttaaat 780
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caagtaaaaa atagatatca atttttaaac caacacctta acccagccat agagtctgat 1260
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<213> Clostridium difficile

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Tyr Asn Lys Leu Thr Thr Asn Asn Asn Glu Asn Lys Tyr Leu Gln Leu
        35   40   45
Lys Lys Leu Asn Glu Ser Ile Asp Val Phe Met Asn Lys Tyr Lys Thr
    50   55   60
Ser Ser Arg Asn Arg Ala Leu Ser Asn Leu Lys Lys Asp Ile Leu Lys
65   70   75   80
Glu Val Ile Leu Ile Lys Asn Ser Asn Thr Ser Pro Val Glu Lys Asn
                85   90   95

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Tyr Ile Lys Gln Trp Ala Asp Ile Asn Ala Glu Tyr Asn Ile Lys Leu
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Trp Tyr Asp Ser Glu Ala Phe Leu Val Asn Thr Leu Lys Lys Ala Ile
    130                 135                 140
Val Glu Ser Ser Thr Thr Glu Ala Leu Gln Leu Leu Glu Glu Glu Ile
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Gln Asn Pro Gln Phe Asp Asn Met Lys Phe Tyr Lys Lys Arg Met Glu
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Phe Ile Tyr Asp Arg Gln Lys Arg Phe Ile Asn Tyr Tyr Lys Ser Gln
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Ile Asn Lys Pro Thr Val Pro Thr Ile Asp Asp Ile Ile Lys Ser His
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Leu Val Ser Glu Tyr Asn Arg Asp Glu Thr Val Leu Glu Ser Tyr Arg
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Thr Asn Ser Leu Arg Lys Ile Asn Ser Asn His Gly Ile Asp Ile Arg
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Ala Asn Ser Leu Phe Thr Glu Gln Glu Leu Leu Asn Ile Tyr Ser Gln
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Glu Leu Leu Asn Arg Gly Asn Leu Ala Ala Ala Ser Asp Ile Val Arg
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Leu Pro Gly Ile His Ser Asp Leu Phe Lys Thr Ile Ser Arg Pro Ser
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Ser Ile Gly Leu Asp Arg Trp Glu Met Ile Lys Leu Glu Ala Ile Met
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Lys Tyr Lys Lys Tyr Ile Asn Asn Tyr Thr Ser Glu Asn Phe Asp Lys
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Ser Glu Lys Ser Glu Ile Phe Ser Lys Leu Glu Asn Leu Asn Val Ser
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Tyr Asp Phe Asn Val Glu Glu Thr Tyr Pro Gly Lys Leu Leu Leu Ser
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Ile Thr Ile Gly Ala Asn Gln Tyr Glu Val Arg Ile Asn Ser Glu Gly
            740                 745                 750
Arg Lys Glu Leu Leu Ala His Ser Gly Lys Trp Ile Asn Lys Glu Glu
        755                 760                 765
Ala Ile Met Ser Asp Leu Ser Ser Lys Glu Tyr Ile Phe Phe Asp Ser
    770                 775                 780
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Ser Ile Ser Glu Asp Ile Lys Thr Leu Leu Leu Asp Ala Ser Val Ser
                805                 810                 815
Pro Asp Thr Lys Phe Ile Leu Asn Asn Leu Lys Leu Asn Ile Glu Ser
            820                 825                 830
Ser Ile Gly Asp Tyr Ile Tyr Tyr Glu Lys Leu Glu Pro Val Lys Asn
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Thr Tyr Ser Val Arg Phe Ile Asn Lys Ser Asn Gly Glu Ser Val Tyr
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Ser Val Val Asn Tyr Phe Asn His Leu Ser Glu Ser Lys Lys Tyr Gly
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    2610                2615                2620
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Gly Asn Asn Ser Lys Ala Val Thr Gly Trp Gln Thr Ile Asn Gly Lys
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<213> Clostridium difficile

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<212> PRT
<213> Clostridium difficile

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Glu Tyr His Asn Met Ser Glu Asn Thr Val Val Glu Lys Tyr Leu Lys
        35   40   45
Leu Lys Asp Ile Asn Ser Leu Thr Asp Ile Tyr Ile Asp Thr Tyr Lys
    50   55   60
Lys Ser Gly Arg Asn Lys Ala Leu Lys Lys Phe Lys Glu Tyr Leu Val
65   70   75   80
Thr Glu Val Leu Glu Leu Lys Asn Asn Asn Leu Thr Pro Val Glu Lys
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Asn Tyr Ile Asn Gln Trp Lys Asp Val Asn Ser Asp Tyr Asn Val Asn
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Val Phe Tyr Asp Ser Asn Ala Phe Leu Ile Asn Thr Leu Lys Lys Thr
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Val Val Glu Ser Ala Ile Asn Asp Thr Leu Glu Ser Phe Arg Glu Asn
145                 150                 155                 160
Leu Asn Asp Pro Arg Phe Asp Tyr Asn Lys Phe Phe Arg Lys Arg Met
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Glu Ile Ile Tyr Asp Lys Gln Lys Asn Phe Ile Asn Tyr Tyr Lys Ala
            180                 185                 190
Gln Arg Glu Glu Asn Pro Glu Leu Ile Ile Asp Asp Ile Val Lys Thr
        195                 200                 205
Tyr Leu Ser Asn Glu Tyr Ser Lys Glu Ile Asp Glu Leu Asn Thr Tyr
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Gln Glu Leu Val Glu Arg Trp Asn Leu Ala Ala Ala Ser Asp Ile Leu
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Arg Ile Ser Ala Leu Lys Glu Ile Gly Gly Met Tyr Leu Asp Val Asp
        275                 280                 285
Met Leu Pro Gly Ile Gln Pro Asp Leu Phe Glu Ser Ile Glu Lys Pro
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Ser Ser Val Thr Val Asp Phe Trp Glu Met Thr Lys Leu Glu Ala Ile
305                 310                 315                 320
Met Lys Tyr Lys Glu Tyr Ile Pro Glu Tyr Thr Ser Glu His Phe Asp
                325                 330                 335
Met Leu Asp Glu Glu Val Gln Ser Ser Phe Glu Ser Val Leu Ala Ser
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Lys Ser Asp Lys Ser Glu Ile Phe Ser Ser Leu Gly Asp Met Glu Ala
        355                 360                 365
Ser Pro Leu Glu Val Lys Ile Ala Phe Asn Ser Lys Gly Ile Ile Asn
    370                 375                 380
Gln Gly Leu Ile Ser Val Lys Asp Ser Tyr Cys Ser Asn Leu Ile Val
385                 390                 395                 400
Lys Gln Ile Glu Asn Arg Tyr Lys Ile Leu Asn Asn Ser Leu Asn Pro
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Ala Ile Ser Glu Asp Asn Asp Phe Asn Thr Thr Thr Asn Thr Phe Ile
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Asp Ser Ile Met Ala Glu Ala Asn Ala Asp Asn Gly Arg Phe Met Met
        435                 440                 445
Glu Leu Gly Lys Tyr Leu Arg Val Gly Phe Phe Pro Asp Val Lys Thr
    450                 455                 460
Thr Ile Asn Leu Ser Gly Pro Glu Ala Tyr Ala Ala Ala Tyr Gln Asp
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Leu Leu Met Phe Lys Glu Gly Ser Met Asn Ile His Leu Ile Glu Ala
                485                 490                 495
Asp Leu Arg Asn Phe Glu Ile Ser Lys Thr Asn Ile Ser Gln Ser Thr
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Glu Gln Glu Met Ala Ser Leu Trp Ser Phe Asp Asp Ala Arg Ala Lys
        515                 520                 525
Ala Gln Phe Glu Glu Tyr Lys Arg Asn Tyr Phe Glu Gly Ser Leu Gly
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Glu Asp Asp Asn Leu Asp Phe Ser Gln Asn Ile Val Val Asp Lys Glu
545                 550                 555                 560
Tyr Leu Leu Glu Lys Ile Ser Ser Leu Ala Arg Ser Ser Glu Arg Gly
                565                 570                 575
Tyr Ile His Tyr Ile Val Gln Leu Gln Gly Asp Lys Ile Ser Tyr Glu
            580                 585                 590
Ala Ala Cys Asn Leu Phe Ala Lys Thr Pro Tyr Asp Ser Val Leu Phe
        595                 600                 605
Gln Lys Asn Ile Glu Asp Ser Glu Ile Ala Tyr Tyr Tyr Asn Pro Gly
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Asp Gly Glu Ile Gln Glu Ile Asp Lys Tyr Lys Ile Pro Ser Ile Ile
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Glu Phe Asn Thr Asp Ile Phe Ala Gly Phe Asp Val Asp Ser Leu Ser
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Thr Glu Ile Glu Ala Ala Ile Asp Leu Ala Lys Glu Asp Ile Ser Pro
        675                 680                 685
Lys Ser Ile Glu Ile Asn Leu Leu Gly Cys Asn Met Phe Ser Tyr Ser
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Ile Asn Val Glu Glu Thr Tyr Pro Gly Lys Leu Leu Leu Lys Val Lys
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Asp Lys Ile Ser Glu Leu Met Pro Ser Ile Ser Gln Asp Ser Ile Ile
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Val Ser Ala Asn Gln Tyr Glu Val Arg Ile Asn Ser Glu Gly Arg Arg
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Glu Leu Leu Asp His Ser Gly Glu Trp Ile Asn Lys Glu Glu Ser Ile
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Ile Lys Asp Ile Ser Ser Lys Glu Tyr Ile Ser Phe Asn Pro Lys Glu
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Asn Lys Ile Thr Val Lys Ser Lys Asn Leu Pro Glu Leu Ser Thr Leu
785                 790                 795                 800
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                805                 810                 815
Glu Lys Val Met Leu Thr Glu Cys Glu Ile Asn Val Ile Ser Asn Ile
            820                 825                 830
Asp Thr Gln Ile Val Glu Glu Arg Ile Glu Glu Ala Lys Asn Leu Thr
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Ser Asp Ser Ile Asn Tyr Ile Lys Asp Glu Phe Lys Leu Ile Glu Ser
    850                 855                 860
Ile Ser Asp Ala Leu Cys Asp Leu Lys Gln Gln Asn Glu Leu Glu Asp
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Ser His Phe Ile Ser Phe Glu Asp Ile Ser Glu Thr Asp Glu Gly Phe
                885                 890                 895
Ser Ile Arg Phe Ile Asn Lys Glu Thr Gly Glu Ser Ile Phe Val Glu
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Thr Glu Lys Thr Ile Phe Ser Glu Tyr Ala Asn His Ile Thr Glu Glu
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Ile Ser Lys Ile Lys Gly Thr Ile Phe Asp Thr Val Asn Gly Lys Leu
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Val Lys Lys Val Asn Leu Asp Thr Thr His Glu Val Asn Thr Leu Asn
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Ala Ala Phe Phe Ile Gln Ser Leu Ile Glu Tyr Asn Ser Ser Lys Glu
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Ser Leu Ser Asn Leu Ser Val Ala Met Lys Val Gln Val Tyr Ala Gln
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Leu Phe Ser Thr Gly Leu Asn Thr Ile Thr Asp Ala Ala Lys Val Val
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Glu Leu Val Ser Thr Ala Leu Asp Glu Thr Ile Asp Leu Leu Pro Thr
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Leu Ser Glu Gly Leu Pro Ile Ile Ala Thr Ile Ile Asp Gly Val Ser
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Leu Gly Ala Ala Ile Lys Glu Leu Ser Glu Thr Ser Asp Pro Leu Leu
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Arg Gln Glu Ile Glu Ala Lys Ile Gly Ile Met Ala Val Asn Leu Thr
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Thr Ala Thr Thr Ala Ile Ile Thr Ser Ser Leu Gly Ile Ala Ser Gly
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Phe Ser Ile Leu Leu Val Pro Leu Ala Gly Ile Ser Ala Gly Ile Pro
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Ser Leu Val Asn Asn Glu Leu Val Leu Arg Asp Lys Ala Thr Lys Val
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Val Asp Tyr Phe Lys His Val Ser Leu Val Glu Thr Glu Gly Val Phe
                1125                1130                1135
Thr Leu Leu Asp Asp Lys Ile Met Met Pro Gln Asp Asp Leu Val Ile
            1140                1145                1150
Ser Glu Ile Asp Phe Asn Asn Asn Ser Ile Val Leu Gly Lys Cys Glu
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Ile Trp Arg Met Glu Gly Gly Ser Gly His Thr Val Thr Asp Asp Ile
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Glu Thr Gly Trp Thr Pro Gly Leu Arg Ser Leu Glu Asn Asp Gly Thr
1235 1240 1245
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Ser Leu Tyr Tyr Phe Lys Pro Pro Val Asn Asn Leu Ile Thr Gly Phe
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Val Thr Val Gly Asp Asp Lys Tyr Tyr Phe Asn Pro Ile Asn Gly Gly
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Ala Ala Ser Ile Gly Glu Thr Ile Ile Asp Asp Lys Asn Tyr Tyr Phe
        1875                1880                1885
Asn Gln Ser Gly Val Leu Gln Thr Gly Val Phe Ser Thr Glu Asp Gly
    1890                1895                1900
Phe Lys Tyr Phe Ala Pro Ala Asn Thr Leu Asp Glu Asn Leu Glu Gly
1905                1910                1915                1920
Glu Ala Ile Asp Phe Thr Gly Lys Leu Ile Ile Asp Glu Asn Ile Tyr
                1925                1930                1935
Tyr Phe Asp Asp Asn Tyr Arg Gly Ala Val Glu Trp Lys Glu Leu Asp
            1940                1945                1950
Gly Glu Met His Tyr Phe Ser Pro Glu Thr Gly Lys Ala Phe Lys Gly
        1955                1960                1965
Leu Asn Gln Ile Gly Asp Tyr Lys Tyr Tyr Phe Asn Ser Asp Gly Val
    1970                1975                1980
Met Gln Lys Gly Phe Val Ser Ile Asn Asp Asn Lys His Tyr Phe Asp
1985                1990                1995                2000
Asp Ser Gly Val Met Lys Val Gly Tyr Thr Glu Ile Asp Gly Lys His
                2005                2010                2015
Phe Tyr Phe Ala Glu Asn Gly Glu Met Gln Ile Gly Val Phe Asn Thr
            2020                2025                2030
Glu Asp Gly Phe Lys Tyr Phe Ala His His Asn Glu Asp Leu Gly Asn
        2035                2040                2045
Glu Glu Gly Glu Glu Ile Ser Tyr Ser Gly Ile Leu Asn Phe Asn Asn
    2050                2055                2060
Lys Ile Tyr Tyr Phe Asp Asp Ser Phe Thr Ala Val Val Gly Trp Lys
2065                2070                2075                2080
Asp Leu Glu Asp Gly Ser Lys Tyr Tyr Phe Asp Glu Asp Thr Ala Glu
                2085                2090                2095
Ala Tyr Ile Gly Leu Ser Leu Ile Asn Asp Gly Gln Tyr Tyr Phe Asn
            2100                2105                2110
Asp Asp Gly Ile Met Gln Val Gly Phe Val Thr Ile Asn Asp Lys Val
        2115                2120                2125
Phe Tyr Phe Ser Asp Ser Gly Ile Ile Glu Ser Gly Val Gln Asn Ile
    2130                2135                2140
Asp Asp Asn Tyr Phe Tyr Ile Asp Asp Asn Gly Ile Val Gln Ile Gly
2145                2150                2155                2160
Val Phe Asp Thr Ser Asp Gly Tyr Lys Tyr Phe Ala Pro Ala Asn Thr
                2165                2170                2175
Val Asn Asp Asn Ile Tyr Gly Gln Ala Val Glu Tyr Ser Gly Leu Val
            2180                2185                2190
Arg Val Gly Glu Asp Val Tyr Tyr Phe Gly Glu Thr Tyr Thr Ile Glu
        2195                2200                2205
Thr Gly Trp Ile Tyr Asp Met Glu Asn Glu Ser Asp Lys Tyr Tyr Phe
    2210                2215                2220
Asn Pro Glu Thr Lys Lys Ala Cys Lys Gly Ile Asn Leu Ile Asp Asp
2225                2230                2235                2240
Ile Lys Tyr Tyr Phe Asp Glu Lys Gly Ile Met Arg Thr Gly Leu Ile
                2245                2250                2255
Ser Phe Glu Asn Asn Asn Tyr Tyr Phe Asn Glu Asn Gly Glu Met Gln
            2260                2265                2270
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Phe Gly Tyr Ile Asn Ile Glu Asp Lys Met Phe Tyr Phe Gly Glu Asp
2275 2280 2285
Gly Val Met Gln Ile Gly Val Phe Asn Thr Pro Asp Gly Phe Lys Tyr
2290 2295 2300
Phe Ala His Gln Asn Thr Leu Asp Glu Asn Phe Glu Gly Glu Ser Ile
2305 2310 2315 2320
Asn Tyr Thr Gly Trp Leu Asp Leu Asp Glu Lys Arg Tyr Tyr Phe Thr
2325 2330 2335
Asp Glu Tyr Ile Ala Ala Thr Gly Ser Val Ile Ile Asp Gly Glu Glu
2340 2345 2350
Tyr Tyr Phe Asp Pro Asp Thr Ala Gln Leu Val Ile Ser Glu
2355 2360 2365

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<400> 381
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Xaa

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<223> Xaa = Ile, Val, or Thr

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<223> Xaa = Phe, Lys, or Asn

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<223> Xaa = Lys, or absent

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<223> Xaa = Ile, Asn, or absent

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<223> Xaa = Ala or Thr

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Xaa Xaa Xaa
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<223> Xaa = His, Tyr, or Phe

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5

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<211> 8
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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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<223> Xaa = Lys, or Arg

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<223> Xaa = Thr, Asp, or Ser

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Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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 1   5   10

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<223> Xaa = Leu, Tyr, Ser, Pro, or Asn

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<223> Xaa = Leu, Asp, Tyr, Ser, or Asp

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<223> Xaa = Tyr, Gly, Phe, Asp, Trp, or Val

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<223> Xaa = Tyr, Leu, Val, Gly, or absent

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<223> Xaa = Asp, Tyr, or absent

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 1   5   10   15

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<223> Xaa = Gly, Asp, or Ser

<220>
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<223> Xaa = Ile, or Val

<220>
<221> VARIANT
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<223> Xaa = Arg, Ser, Gly, or Tyr

<220>
<221> VARIANT
<222> (5)...(5)
<223> Xaa = Ser, or Asn

<220>
<221> VARIANT
<222> (6)...(6)
<223> Xaa = Trp, His, Asn, Phe, Ser, or Asp

<220>
<221> VARIANT
<222> (7)...(7)
<223> Xaa = Tyr, or absent

<400> 396
Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5

<210> 397
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> VARIANT
<222> (1)...(1)
<223> Xaa = Ala, Ser, Asp, or Gly

<220>
<221> VARIANT
<222> (2)...(2)
<223> Xaa = Ala, or Thr

<220>
<221> VARIANT
<222> (3)...(3)
<223> Xaa = Ser

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Xaa Xaa Xaa
 1

<210> 398
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<220>
<221> VARIANT

<222> (1)...(1)
<223> Xaa = Gln, His, or Leu

<220>
<221> VARIANT
<222> (2)...(2)
<223> Xaa = Gln

<220>
<221> VARIANT
<222> (3)...(3)
<223> Xaa = Ala, Tyr, Arg, Asp, His, or Val

<220>
<221> VARIANT
<222> (4)...(4)
<223> Xaa = Tyr, Gly, Asn, Ser, Ile, or Lys

<220>
<221> VARIANT
<222> (5)...(5)
<223> Xaa = Ser, Leu, Pro, Ile, Asn, Thr, or Gly

<220>
<221> VARIANT
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<223> Xaa = Phe, Tyr, Trp, or Ser

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<221> VARIANT
<222> (7)...(7)
<223> Xaa = Pro

<220>
<221> VARIANT
<222> (8)...(8)
<223> Xaa = Leu, Pro, Phe, Val, or Tyr

<220>
<221> VARIANT
<222> (9)...(9)
<223> Xaa = Thr

<400> 398
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1   5