SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> Anti-ErbB3 Antibodies and Uses Thereof

<130> 6550A-WO

<140> To be assigned
<141> Filed herewith

<150> 61/541,312
<151> 2011-09-30

<150> 61/557,460
<151> 2011-11-09

<150> 61/614,565
<151> 2012-03-23

<160> 500

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acagactccg tgaagggccg attcaccctg tccagagaca gttccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtct atttctgtgc gagagaagag 300
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Gly Met His Trp Val Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Arg Ile Trp Phe Asp Gly Thr Asn Lys Tyr Tyr Thr Asp Ser Val
    50   55   60

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

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gggaaagccc ctaacctcct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcagcag cctgcagcct 240
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            20   25   30
Leu Gly Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Asn Leu Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Tyr Asn Tyr Pro Leu
85 90 95
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ccagggaagg ggctggagtg ggtctctggt actaattgga atggtggtat cacaggttat 180
acaggctctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctatat 240
ctacaaatga acagtctgag agccgaggac acggccttgt atcactgtgc gagagatagc 300
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20 25 30
Gly Met Asn Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gly Thr Asn Trp Asn Gly Gly Ile Thr Gly Tyr Thr Gly Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr His Cys
85 90 95

Ala Arg Asp Ser Gly Asp Gln Asp Ala Phe Asp Ile Trp Gly Gln Gly
100 105 110
Thr Met Val Thr Val Ser Ser
115

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<400> 20
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1 5

<210> 21
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gggaaagccc ctaaactcct gatctatgct gcatccactt tccaaagtgg ggtcccatca 180
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20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Ala Ala Ser Thr Phe Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asn Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Leu Asp Ser Tyr Pro Leu
85 90 95
Ser Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg

100 105

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<210> 29
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Gln Gln Leu Asp Ser Tyr Pro Leu Ser
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gtctccgcga tgggccgatt caccatctcc agagatgatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cggggacacg gctgtctatt actgtgcaag agaggggtc 300
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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 Pro Ala Gly Asp Thr Tyr Tyr Pro Val Ser Ala Met
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 Glu Gly Val Thr Ile Arg Pro Asp Asp Tyr Phe Gly Leu Asp Val
100 105 110
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ala

115 120

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<400> 35
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<400> 40
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Val

<210> 41
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
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gggaaagccc ctcagctcct gatctatgct gcaaccactt tgcaaagtgg ggtcccatct 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtcaacag cttaatactt acccactcac tttcggcgga 300
gggaccaagg tggagatcaa acga 324

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

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<400> 46
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<400> 48
Gln Gln Leu Asn Thr Tyr Pro Leu Thr
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gcagactccg tgaagggccg attcaccatc tccagagacg attccaagaa cacggtatat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagactgg 300
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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 Val Ile Trp Tyr Val Glu Ile Asn Lys Tyr His Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr Val Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Asp Trp Asn Asp Gly Asp Tyr Gly Met Asp Val Trp Gly Gln
100 105 110
Gly Thr Thr Val Thr Val Ser Ser
115 120

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Gly Phe Thr Phe Ser Ser Phe Gly
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Ile Trp Tyr Val Glu Ile Asn Lys
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gggaaagccc cgaggctcct gatctatgct gcatccactt tgcaaactgg ggtcccatca 180
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gggaccaagc tggagatcaa acga 324

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

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<210> 60
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<400> 60
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<210> 61
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<400> 61
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<210> 62
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<400> 62
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<210> 63
<211> 27
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<400> 63
caacagctta atagttaccc gtacact 27

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acaggaaaag gtctggagtg ggtctcagct attggtcctg ctggtgacac atactattca 180
gactccgtaa agggccgatt caccatctcc agagaagatg ccaagaactc cttgtatctt 240
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            20   25   30
Asp Ile His Trp Val Arg Gln Ala Thr Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Gly Pro Ala Gly Asp Thr Tyr Tyr Ser Asp Ser Val Lys
    50   55   60
Gly Arg Phe Thr Ile Ser Arg Glu Asp Ala Lys Asn Ser Leu Tyr Leu
65   70   75   80
Gln Met Ser Ser Leu Arg Ala Gly Asp Thr Ala Val Tyr Tyr Cys Ala
                85   90   95
Ser Glu Gly Ile Ala Val Arg Pro Asp Asp Tyr Tyr Gly Met Asp Val
            100   105   110
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ala
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<400> 68
Gly Phe Thr Phe Ser Asn Tyr Asp
1 5

<210> 69
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<220>
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<400> 69
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1 5

<210> 71
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<400> 71
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<210> 72
<211> 17
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<220>
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<400> 72
Ala Ser Glu Gly Ile Ala Val Arg Pro Asp Asp Tyr Tyr Gly Met Asp
 1   5   10   15
Val

<210> 73
<211> 324
<212> DNA
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<220>
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gggaaagccc ctaagctcct gatctatgct gcatccactt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg cagcttatta ctgtcaacag cttaatagtt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga   324

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<211> 108
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<213> Artificial Sequence

<220>
<223> Synthetic

<400> 74
Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Trp Ala Ser Gln Asp Ile Thr Ser Tyr
            20   25   30
Leu Ala Trp Tyr Gln Lys Lys Pro Gly Lys Ala 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 Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Ala Tyr Tyr Cys Gln Gln Leu Asn Ser Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Asp Ile Lys Arg
            100   105

<210> 75
<211> 18

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75
caggacatta ccagttat 18

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

<220>
<223> Synthetic

<400> 76
Gln Asp Ile Thr Ser Tyr
1 5

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

<220>
<223> Synthetic

<400> 77
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 78
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 79
caacagctta atagttaccc gctcact 27

<210> 80

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

<220>
<223> Synthetic

<400> 80
Gln Gln Leu Asn Ser Tyr Pro Leu Thr
 1   5

<210> 81
<211> 381
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 81
gaggtgcagc tgttggagtc tgggggagac ttggtacagc ctggggggtc cctgagactc 60
tcctgtgcaa cctctggatt cagttttagt agtgatgcca tgaactgggt ccgccaggct 120
ccagggaagg gcctggagtg ggtctcaggt attagtggta gtggtggtaa cacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca tttccaagag cacgctgtct 240
ctgcaaatga acagcctgag agccgaggac acggccgtat attattgtgc gaaagagggt 300
actaatatgg ttcggggagt tgttatggag gacaacggta tggacgtctg gggccaaggg 360
accacggtca ccgtctccgc c   381

<210> 82
<211> 127
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 82
Glu Val Gln Leu Leu Glu Ser Gly Gly Asp Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Ser Phe Ser Ser Asp
            20   25   30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Ser Gly Ser Gly Gly Asn Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Ile Ser Lys Ser Thr Leu Ser
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 Glu Gly Thr Asn Met Val Arg Gly Val Val Met Glu Asp Asn
            100   105   110
Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ala
        115   120   125

<210> 83
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 83
ggattcagtt ttagtagtga tgcc 24

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

<220>
<223> Synthetic

<400> 84
Gly Phe Ser Phe Ser Ser Asp Ala
 1 5

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

<220>
<223> Synthetic

<400> 85
attagtggta gtggtggtaa caca 24

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

<220>
<223> Synthetic

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

<210> 87
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87
gcgaaagagg gtactaatat ggttcgggga gttgttatgg aggacaacgg tatggacgtc 60

<210> 88
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 88
Ala Lys Glu Gly Thr Asn Met Val Arg Gly Val Val Met Glu Asp Asn
 1   5   10   15
Gly Met Asp Val
            20

<210> 89
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 89
gacatccaga tgacccagtc gccatcttcc gtgtctgcat ctgtgggaga cagagtcacc 60
atcacttgtc gggcgagtca gggtattagc gactacttag cctggtatca gcagaaacca 120
ggaaaagccc ctaaactcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatcc 180
aggttcagcg gccgtggctc tgggacagat ttcactctca ccatcagcac cctgcagcct 240
gaagattttg caacttacta ttgtcaacag gctaacagtt tccccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga   324

<210> 90
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 91
<211> 18

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 91
cagggtatta gcgactac 18

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

<220>
<223> Synthetic

<400> 92
Gln Gly Ile Ser Asp Tyr
 1   5

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

<220>
<223> Synthetic

<400> 93
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 94
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 95
caacaggcta acagtttccc gctcact 27

<210> 96

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

<220>
<223> Synthetic

<400> 96
Gln Gln Ala Asn Ser Phe Pro Leu Thr
 1   5

<210> 97
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcaat aactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggcgtg ggtggcagtt atgtggtata gtgaaagtca taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctggaaatga acagcctgag agtcgaggac acggctatat attactgtgc gagagatctc 300
ggtgaccccg atgcttttga tatctggggc caagggacaa tggtcaccgt ctcttca   357

<210> 98
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 99
<211> 24
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 99
ggattcacct tcaataacta tggc 24

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

<220>
<223> Synthetic

<400> 100
Gly Phe Thr Phe Asn Asn Tyr Gly
1 5

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

<220>
<223> Synthetic

<400> 101
atgtggtata gtgaaagtca taaa 24

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

<220>
<223> Synthetic

<400> 102
Met Trp Tyr Ser Glu Ser His Lys
1 5

<210> 103
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103
gcgagagatc tcggtgaccc cgatgctttt gatatc 36

<210> 104
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 104
Ala Arg Asp Leu Gly Asp Pro Asp Ala Phe Asp Ile
 1   5   10

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

<220>
<223> Synthetic

<400> 105
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca gggcattagc agttatttag cctggtatca gcaaaaacca 120
gggaaagccc ctaagctcct gatttatggt gcatccactt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtcaacag cttaatagtt accctctcac cttcggcgga 300
gggaccaagg tggagatcaa acga   324

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

<220>
<223> Synthetic

<400> 106
Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Trp Ala Ser Gln Gly Ile Ser Ser Tyr
            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 Thr Leu Gln 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
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Leu Asn Ser Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
            100   105

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

<220>

<223> Synthetic

<400> 107
cagggcatta gcagttat 18

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

<220>
<223> Synthetic

<400> 108
Gln Gly Ile Ser Ser Tyr
1 5

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

<220>
<223> Synthetic

<400> 109
ggtgcatcc 9

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

<220>
<223> Synthetic

<400> 110
Gly Ala Ser
1

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

<220>
<223> Synthetic

<400> 111
caacagctta atagttaccc tctcacc 27

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

<220>
<223> Synthetic

<400> 112
Gln Gln Leu Asn Ser Tyr Pro Leu Thr
 1   5

<210> 113
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcaggt atgtcatatg atggaagtag taaatactat 180
gaagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgaat 240
ctgcaaatga acagcctgag agttgaggac acggctgtgt attactgtgc gaaagaaagg 300
gactacgttg agtacgtaga ctcctactac ggtatggacg tctggggcca agggaccacg 360
gtcaccgtct ccgcc   375

<210> 114
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Gly Met Ser Tyr Asp Gly Ser Ser Lys Tyr Tyr Glu Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Asn
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Glu Arg Asp Tyr Val Glu Tyr Val Asp Ser Tyr Tyr Gly Met
            100   105   110
Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ala
        115   120   125

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

<220>

<223> Synthetic

<400> 115
ggattcacct tcagtagcta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 117
atgtcatatg atggaagtag taaa 24

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

<220>
<223> Synthetic

<400> 118
Met Ser Tyr Asp Gly Ser Ser Lys
1 5

<210> 119
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 119
gcgaaagaaa gggactacgt tgagtacgta gactcctact acggtatgga cgtc 54

<210> 120
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120
Ala Lys Glu Arg Asp Tyr Val Glu Tyr Val Asp Ser Tyr Tyr Gly Met
 1   5   10   15
Asp Val

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

<220>
<223> Synthetic

<400> 121
gccatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120
gggaaagccc ctaaggtcct aatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tggaacagtt ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa gattacaatt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga   324

<210> 122
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 122
Ala Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
            20   25   30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val 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 Val Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Tyr Asn Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 123
cagggcatta gaaatgat 18

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

<220>
<223> Synthetic

<400> 124
Gln Gly Ile Arg Asn Asp
1 5

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

<220>
<223> Synthetic

<400> 125
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 126
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 127
ctacaagatt acaattaccc gctcact 27

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

<220>

<223> Synthetic

<400> 128
Leu Gln Asp Tyr Asn Tyr Pro Leu Thr
 1   5

<210> 129
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 129
gaggtgcagc tggtggagtc tgggggaggt gtggtacggc ctgggggGTC cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatggca tgagctgggt ccgccaattt 120
ccagggaagg ggctggagtg ggtctctagt attgatggaa atggtggtaa cacaggttat 180
tcagactctg tgaagggccg attcaccatc tccagagaca acgccaaaaa ctccctgcat 240
ctgcaaatga acagtctgag agccgaggac acggccttgt atcactgtgc gagagatccc 300
gattatgatt ccgtttgggg gaattatcgt ccctttgact actggggcca gggaaccctg 360
gtcaccgtct cctca   375

<210> 130
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 130
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Arg Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20   25   30
Gly Met Ser Trp Val Arg Gln Phe Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ser Ile Asp Gly Asn Gly Gly Asn Thr Gly Tyr Ser Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu His
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr His Cys
                85   90   95
Ala Arg Asp Pro Asp Tyr Asp Ser Val Trp Gly Asn Tyr Arg Pro Phe
            100   105   110
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120   125

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

<220>
<223> Synthetic

<400> 131
ggattcacct ttgatgatta tggc 24

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

<220>
<223> Synthetic

<400> 132
Gly Phe Thr Phe Asp Asp Tyr Gly
1 5

<210> 133
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 133
attgatggaa atggtggtaa caca 24

<210> 134
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 135
gcgagagatc ccgattatga ttccgtttgg gggaattatc gtcoctttga ctac 54

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

<220>

<223> Synthetic

<400> 136
Ala Arg Asp Pro Asp Tyr Asp Ser Val Trp Gly Asn Tyr Arg Pro Phe
 1   5   10   15
Asp Tyr

<210> 137
<211> 342
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 137
gatattgtga tgactcagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tccagctcca acgataacaa ctacttagct 120
tggttccagc agaaaccagg acagcctcct aacctactca tttactgggc atccacccgg 180
gattccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt caccctcgcc 240
atcagcagcc tgcaggctga agatgtggca gtttattact gtcaccaata ttatagttct 300
cctccgacgt tcggccaagg gaccaaggtg gagatcaaac ga   342

<210> 138
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 138
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1   5   10   15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Ser Ser
            20   25   30
Ser Asn Asp Asn Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln
        35   40   45
Pro Pro Asn Leu Leu Ile Tyr Trp Ala Ser Thr Arg Asp Ser Gly Val
    50   55   60
Pro Asp Arg Phe Ser Ala Ser Gly Ser Gly Thr Asp Phe Thr Leu Ala
65   70   75   80
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys His Gln
                85   90   95
Tyr Tyr Ser Ser Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100   105   110
Lys Arg

<210> 139
<211> 36
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 139
cagagtgttt tatccagctc caacgataac aactac 36

<210> 140
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 140
Gln Ser Val Leu Ser Ser Ser Asn Asp Asn Asn Tyr
1 5 10

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

<220>
<223> Synthetic

<400> 141
tgggcatcc 9

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

<220>
<223> Synthetic

<400> 142
Trp Ala Ser
1

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

<220>
<223> Synthetic

<400> 143
caccaatatt atagttctcc tccgacg 27

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

<220>
<223> Synthetic

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

<210> 145
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccattaac agtggtggtt attactggag ctggatccgc 120
cagcacccag ggaagggcct ggagtggatt gggtacatct cttacagtgg gaataccaac 180
tacaacccgt ccctcaagag tcgagttacc atatcagtag acacgtctaa gaaccagttc 240
tccctgacac tgacctctgt gactgccgcg gacacggccg tgtattactg tgcgagagac 300
agtgacgtgg atacaggtct ggttgatggt tttgatgtct ggggccaagg aacaatggtc 360
accgtctctt ca   372

<210> 146
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>

<223> Synthetic

<400> 147
ggtggctcca ttaacagtgg tggttattac 30

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 149
atctcttaca gtgggaatac c 21

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 151
gcgagagaca gtgacgtgga tacaggtctg gttgatggtt ttgatgtc 48

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

<220>
<223> Synthetic

<400> 152
Ala Arg Asp Ser Asp Val Asp Thr Gly Leu Val Asp Gly Phe Asp Val
 1   5   10   15

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

<220>
<223> Synthetic

<400> 153
gatattgtga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcgagtca gggtgttagc agctggttag cctggtatca gcagaaacca 120
gggaaagccc ccaagctcct gatttatact acatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaggattttg caacttacta ttgtcaacag tctaacagtt ttccattcac tttcggccct 300
gggaccaagg tggagatcaa a   321

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

<220>
<223> Synthetic

<400> 154
Asp Ile Val 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 Val Ser Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Thr 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 Ser Asn Ser Phe Pro Phe
                85   90   95
Thr Phe Gly Pro Gly Thr Lys Val Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 155

cagggtgtta gcagctgg 18

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

<220>
<223> Synthetic

<400> 156
Gln Gly Val Ser Ser Trp
1 5

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

<220>
<223> Synthetic

<400> 157
actacatcc 9

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

<220>
<223> Synthetic

<400> 158
Thr Thr Ser
1

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

<220>
<223> Synthetic

<400> 159
caacagtcta acagttttcc attcact 27

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

<220>
<223> Synthetic

<400> 160
Gln Gln Ser Asn Ser Phe Pro Phe Thr
 1   5

<210> 161
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 161
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctggggggtc cctaagactc 60
tcctgtgcag cctctggatt ctccgtcagt tactacgaca tgcactgggt ccgccaagtt 120
acaggaaaag gtctggagtg ggtctcagct attggtcctg caggtgacac atattaccca 180
ggctccgtga agggccgatt caccatctcc agagaagatg ccacgaactc cttatatctt 240
caaatacaca gcctgggagc cggggacacg gctgtgtatt actgtgcaag agaggggct 300
atagcagctc gtccggacga ctactacggt atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca   372

<210> 162
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 162
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 Ser Val Ser Tyr Tyr
            20   25   30
Asp Met His Trp Val Arg Gln Val Thr Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Gly Pro Ala Gly Asp Thr Tyr Tyr Pro Gly Ser Val Lys
    50   55   60
Gly Arg Phe Thr Ile Ser Arg Glu Asp Ala Thr Asn Ser Leu Tyr Leu
65   70   75   80
Gln Ile His Ser Leu Gly Ala Gly Asp Thr Ala Val Tyr Tyr Cys Ala
                85   90   95
Arg Glu Gly Ala Ile Ala Ala Arg Pro Asp Asp Tyr Tyr Gly Met Asp
            100   105   110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 163

ggattctccg tcagttacta cgac 24

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

<220>
<223> Synthetic

<400> 164
Gly Phe Ser Val Ser Tyr Tyr Asp
1 5

<210> 165
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 165
attggtcctg caggtgacac a 21

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

<220>
<223> Synthetic

<400> 166
Ile Gly Pro Ala Gly Asp Thr
1 5

<210> 167
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 167
gcaagagagg gggctatagc agctcgtccg gacgactact acggtatgga cgtc 54

<210> 168
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 168
Ala Arg Glu Gly Ala Ile Ala Ala Arg Pro Asp Asp Tyr Tyr Gly Met
 1   5   10   15
Asp Val

<210> 169
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 169
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca ggacattagc agttatttag cctggtatca gcaaaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccactt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtcaacaa cttaatagtt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga   324

<210> 170
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 170
Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Trp Ala Ser Gln Asp Ile Ser Ser Tyr
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala 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 Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Leu Asn Ser Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 171
caggacatta gcagttat   18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 173
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 174
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 175
caacaactta atagttaccc gctcact 27

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

<220>
<223> Synthetic

<400> 176

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Gln Gln Leu Asn Ser Tyr Pro Leu Thr
 1               5
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<210> 177
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 177
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttggt gattatgcca tgcactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaggt attaatttga atagtggcac cataggctat 180
gcggactctg tgaagggccg attcaccatt tcaagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agctgaggac acggccttct attactgtgc aaaagatata 300
gacggctact atcactacgc tatggacgtc tggggccaag ggaccacggt caccgtctcc 360
tca 363

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

<220>
<223> Synthetic

<400> 178
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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 Ala Ala Ser Gly Phe Thr Phe Gly 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 Asn Leu Asn Ser Gly Thr Ile Gly Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Phe Tyr Tyr Cys
                85                  90                  95
Ala Lys Asp Ile Asp Gly Tyr Tyr His Tyr Ala Met Asp Val Trp Gly
            100                 105                 110
Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 179
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 179
ggattcacct ttggtgatta tgcc 24

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

<220>
<223> Synthetic

<400> 180
Gly Phe Thr Phe Gly Asp Tyr Ala
 1   5

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

<220>
<223> Synthetic

<400> 181
attaatttga atagtggcac cata   24

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

<220>
<223> Synthetic

<400> 182
Ile Asn Leu Asn Ser Gly Thr Ile
 1   5

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

<220>
<223> Synthetic

<400> 183
gcaaaagata tagacggcta ctatcactac gctatggacg tc   42

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

<220>
<223> Synthetic

<400> 184

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Ala Lys Asp Ile Asp Gly Tyr Tyr His Tyr Ala Met Asp Val
 1               5                  10
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<210> 185
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 185
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca gggcattagc agttatttag cctggtatca gcaaaaacca 120
gggaaagccc ctaaactcct gatctatgat gcatccactt tggaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcaa cctgcagcct 240
gaagattttg caacttatta ctgtcaacag gttaatagtt accctctcac tttcggcgga 300
gggaccaagg tggaaatcaa acga 324

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

<220>
<223> Synthetic

<400> 186
```
Asp Val Val Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1               5                  10                  15
Asp Arg Val Thr Ile Thr Cys Trp Ala Ser Gln Gly Ile Ser Ser Tyr
            20                  25                  30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Tyr Asp 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 Ser Asn Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Val Asn Ser Tyr Pro Leu
                85                  90                  95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
            100                 105
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<210> 187
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 187
cagggcatta gcagttat 18

<210> 188
<211> 6

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 188
Gln Gly Ile Ser Ser Tyr
 1   5

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

<220>
<223> Synthetic

<400> 189
gatgcatcc   9

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

<220>
<223> Synthetic

<400> 190
Asp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 191
caacaggtta atagttaccc tctcact   27

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

<220>
<223> Synthetic

<400> 192
Gln Gln Val Asn Ser Tyr Pro Leu Thr
 1   5

<210> 193
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 193
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcatt aactatggca tacattgggt ccgccagggt 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa tgaatggtat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacggtgtat 240
ctggaaatga ataaactgag agccgaggac acggctgtgt attactgtgc gagagaagaa 300
gaggactacg gtatggacgt ctggggtcaa gggaccacgg tcaccgtctc ctca 354

<210> 194
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 195
ggattcacct tcattaacta tggc 24

<210> 196
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 196
Gly Phe Thr Phe Ile Asn Tyr Gly
 1   5

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

<220>
<223> Synthetic

<400> 197
atatggtatg atggaagtaa tgaa   24

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

<220>
<223> Synthetic

<400> 198
Ile Trp Tyr Asp Gly Ser Asn Glu
 1   5

<210> 199
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 199
gcgagagaag aagaggacta cggtatggac gtc   33

<210> 200
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 200
Ala Arg Glu Glu Glu Asp Tyr Gly Met Asp Val
 1   5   10

<210> 201
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 201
gacatccaga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccgcc 60
atcaactgca agtccagcca gagtgtttta tacatctcca acaataacaa ctacttagct 120
tggtaccagc agaaaccagg acagccgcct aagctcctca tttactgggc atccacccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggct atttattact gtcaacaata ttatagttct 300
cctccgacgt tcggccaagg gaccaaagtg gatatcaaa 339

<210> 202
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 202
Asp Ile Gln Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1   5   10   15
Glu Arg Ala Ala Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ile
            20   25   30
Ser Asn Asn Asn Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35   40   45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser 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 Ile Tyr Tyr Cys Gln Gln
                85   90   95
Tyr Tyr Ser Ser Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Asp Ile
            100   105   110
Lys

<210> 203
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 203
cagagtgttt tatacatctc caacaataac aactac 36

<210> 204
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 204
Gln Ser Val Leu Tyr Ile Ser Asn Asn Asn Asn Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 205
tgggcatcc   9

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

<220>
<223> Synthetic

<400> 206
Trp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 207
caacaatatt atagttctcc tccgacg   27

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

<220>
<223> Synthetic

<400> 208
Gln Gln Tyr Tyr Ser Ser Pro Pro Thr
 1   5

<210> 209

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

<220>
<223> Synthetic

<400> 209
caggtgcagc tggtggagtc tgggggaggc ttggttaagc ctggagggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt gacttcaaca tgggctggat ccgccaggct 120
ccagggaagg ggctggagtg ggtttcacac attagtggta gtggtaatgt catttactac 180
gcagactctg tgaagggccg attcgccatc tccagggaca acggcaagaa ctcactgtat 240
ctgcaagtga acagcctgag agccgaggac acggccgtgt attactgtgc gagagatatc 300
ggtgactccg atgcgtttga tatctggggc caagggacaa tggtcaccgt ctcttca 357

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 211
ggattcacct tcagtgactt caac 24

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

<220>
<223> Synthetic

<400> 212
Gly Phe Thr Phe Ser Asp Phe Asn
 1   5

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

<220>
<223> Synthetic

<400> 213
attagtggta gtggtaatgt catt   24

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

<220>
<223> Synthetic

<400> 214
Ile Ser Gly Ser Gly Asn Val Ile
 1   5

<210> 215
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 215
gcgagagata tcggtgactc cgatgcgttt gatatc   36

<210> 216
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 216
Ala Arg Asp Ile Gly Asp Ser Asp Ala Phe Asp Ile
 1   5   10

<210> 217
<211> 324

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 217
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca ggacattagc agttatttag cctggtatca gcaaaaacca 120
gggaaagccc ctaagctcct gatctatggt gcatccactt tggaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagatgttg caacttatta ctgtcaacag cttaatactt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga 324

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

<220>
<223> Synthetic

<400> 218
Asp Ile Gln Leu Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Trp Ala Ser Gln Asp Ile Ser Ser Tyr
            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 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 Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Leu Asn Thr Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
            100   105

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

<220>
<223> Synthetic

<400> 219
caggacatta gcagttat 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 221
ggtgcatcc   9

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

<220>
<223> Synthetic

<400> 222
Gly Ala Ser
 1

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

<220>
<223> Synthetic

<400> 223
caacagctta atacttaccc gctcact   27

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

<220>
<223> Synthetic

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

<210> 225
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 225
gaggtgcagc tggtggagtc tgggggaggc ttggtacatc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt tacctttgat gattatgcca tgcactgggt ccggcaatct 120
ccagggaagg gcctggagtg ggtctcaggt attagttgga atagtgttat caaacactct 180
acggactctg tgaggggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgaa acctgaggac acggcctttt attactgtgc aaaggatgag 300
gatgactgga actaccttga ctactggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 226
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 226
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val His Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20   25   30
Ala Met His Trp Val Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Ser Trp Asn Ser Val Ile Lys His Ser Thr Asp Ser Val
    50   55   60
Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Lys Pro Glu Asp Thr Ala Phe Tyr Tyr Cys
                85   90   95
Ala Lys Asp Glu Asp Asp Trp Asn Tyr Leu Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

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

<220>
<223> Synthetic

<400> 227
ggatttacct ttgatgatta tgcc 24

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

<220>
<223> Synthetic

<400> 228

Gly Phe Thr Phe Asp Asp Tyr Ala
1 5

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

<220>
<223> Synthetic

<400> 229
attagttgga atagtgttat caaa 24

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

<220>
<223> Synthetic

<400> 230
Ile Ser Trp Asn Ser Val Ile Lys
1 5

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

<220>
<223> Synthetic

<400> 231
gcaaaggatg aggatgactg gaactacctt gactac 36

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

<220>
<223> Synthetic

<400> 232
Ala Lys Asp Glu Asp Asp Trp Asn Tyr Leu Asp Tyr
1 5 10

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

<220>

<223> Synthetic

<400> 233
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggatattaac agctggttag cctggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctatact tcatccaatt tgcaaagtgg ggtcccatca 180
agattcagcg gcagtgggtc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttacta ttgtcaacag tctgacagtt tcccattcac 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 Val Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Asn Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Thr Ser Ser Asn Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Asp Ser Phe Pro Phe
                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
caggatatta acagctgg 18

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

<220>
<223> Synthetic

<400> 236
Gln Asp Ile Asn Ser Trp
 1   5

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

<220>
<223> Synthetic

<400> 237
acttcatcc 9

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

<220>
<223> Synthetic

<400> 238
Thr Ser Ser
1

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

<220>
<223> Synthetic

<400> 239
caacagtctg acagtttccc attcact 27

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

<220>
<223> Synthetic

<400> 240
Gln Gln Ser Asp Ser Phe Pro Phe Thr
1 5

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

<220>
<223> Synthetic

<400> 241

caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt cacctttagt aactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcacgt atatggtatg atggaagtaa taagtactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca gttccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagagggg 300
gagcagaacc tggactatta ccctttagac gtctggggcc aagggaccac ggtcaccgtc 360
tcctca 366

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 243
ggattcacct ttagtaacta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 245
atatggtatg atggaagtaa taag 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 247
gcgagagagg gggagcagaa cctggactat tacccttttag acgtc 45

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

<220>
<223> Synthetic

<400> 248
Ala Arg Glu Gly Glu Gln Asn Leu Asp Tyr Tyr Pro Leu Asp Val
1 5 10 15

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

<220>
<223> Synthetic

<400> 249

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gacatcgtga tgacccagtc tccatcctcc ctgtctgcat ctgttggaga cagagtcacc 60
atcacttgcc gggcaagtca ggacattaga aatgatttag gctggtatca acagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tacaaactgg ggtcccatca 180
aggttcagcg gcagtgtatc tggcacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa gattacactt accctctcac tttcggcgga 300
gggaccaagg tggagatcaa a                                           321

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

<220>
<223> Synthetic

<400> 250
Asp Ile Val 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 Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Tyr Ala Ala Ser Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Val Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Tyr Thr Tyr Pro Leu
                85                  90                  95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105


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

<220>
<223> Synthetic

<400> 251
caggacatta gaaatgat                                              18

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

<220>
<223> Synthetic

<400> 252
Gln Asp Ile Arg Asn Asp
 1               5


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

<220>
<223> Synthetic

<400> 253
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 254
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 255
ctacaagatt acacttaccc tctcact 27

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

<220>
<223> Synthetic

<400> 256
Leu Gln Asp Tyr Thr Tyr Pro Leu Thr
 1   5

<210> 257
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 257
caggtgcagc tggtgcagtc tggagctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctggtta cacctttacc agatatggta tcagctgggt gcgacaggcc 120
cctggactag ggcttgagtg gatgggctgg atcagcgctt acgatggata cacaaacttt 180

gcacagaagt tccagggcag attcaccatg accacagaca catccacgaa cacagcctac 240
atggaactga ggggcctgag atctgacgac acggccgtgt attactgtgc gagagaggag 300
gaggatgctg cttttgatat ctggggccaa gggacaatgg tcaccgtctc ttca 354

<210> 258
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 258
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr
20 25 30
Gly Ile Ser Trp Val Arg Gln Ala Pro Gly Leu Gly Leu Glu Trp Met
35 40 45
Gly Trp Ile Ser Ala Tyr Asp Gly Tyr Thr Asn Phe Ala Gln Lys Phe
50 55 60
Gln Gly Arg Phe Thr Met Thr Thr Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80
Met Glu Leu Arg Gly Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Glu Glu Glu Asp Ala Ala Phe Asp Ile Trp Gly Gln Gly Thr
100 105 110
Met Val Thr Val Ser Ser
115

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

<220>
<223> Synthetic

<400> 259
ggttacacct ttaccagata tggt 24

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

<220>
<223> Synthetic

<400> 260
Gly Tyr Thr Phe Thr Arg Tyr Gly
1 5

<210> 261
<211> 24
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 261
atcagcgctt acgatggata caca 24

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

<220>
<223> Synthetic

<400> 262
Ile Ser Ala Tyr Asp Gly Tyr Thr
1 5

<210> 263
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 263
gcgagagagg aggaggatgc tgcttttgat atc 33

<210> 264
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 264
Ala Arg Glu Glu Glu Asp Ala Ala Phe Asp Ile
1 5 10

<210> 265
<211> 342
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 265
gacatcgtga tgacccagtc tccagactcc ctagatgtgc ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtatttta ttcggctcca acaataaaaa ctacttagct 120
tggtaccagc agaaatcagg acagcctcca aagctgctca tttactgggc atctacccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240

atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatagtact 300
cctcacactt ttggccaggg gaccaagctg gagatcaaac ga 342

<210> 266
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 266
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Asp Val Pro Leu Gly
1 5 10 15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Ile Leu Phe Gly
20 25 30
Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Ser Gly Gln
35 40 45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala 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 Ser Thr Pro His Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100 105 110
Lys Arg

<210> 267
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 267
cagagtattt tattcggctc caacaataaa aactac 36

<210> 268
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 268
Gln Ser Ile Leu Phe Gly Ser Asn Asn Lys Asn Tyr
1 5 10

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

<220>
<223> Synthetic

<400> 269
tgggcatct 9

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

<220>
<223> Synthetic

<400> 270
Trp Ala Ser
1

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

<220>
<223> Synthetic

<400> 271
cagcaatatt atagtactcc tcacact 27

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

<220>
<223> Synthetic

<400> 272
Gln Gln Tyr Tyr Ser Thr Pro His Thr
1 5

<210> 273
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 273
caggtgcagc tgcaggagtc gggcccagga ctgattaacc cttcacagac cctgtccgtc 60
acctgcactg tctctggtgg ctccatcagc agtggtggtt attattggac ctggatacgc 120
cagcacccag gaaagggcct ggagtggatt gggtacatct cttacagtgg gaacaccaac 180
tataatccgt ccctcaagag tcgagttacc atatcagtag acacggctaa gaaccagttc 240
tccctgaagc tgagctctgt gactgccgcg gacacggccg tctacttctg tgcgagagac 300

agtgacgtgg acacagctat ggttgatggt attgatatct ggggccaagg gacaatggtc 360
accgtctctt ca 372

<210> 274
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 275
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 275
ggtggctcca tcagcagtgg tggttattat 30

<210> 276
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 276
Gly Gly Ser Ile Ser Ser Gly Gly Tyr Tyr
1 5 10

<210> 277
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 277
atctcttaca gtgggaacac c 21

<210> 278
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 278
Ile Ser Tyr Ser Gly Asn Thr
1 5

<210> 279
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 279
gcgagagaca gtgacgtgga cacagctatg gttgatggta ttgatatc 48

<210> 280
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 280
Ala Arg Asp Ser Asp Val Asp Thr Ala Met Val Asp Gly Ile Asp Ile
1 5 10 15

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

<220>
<223> Synthetic

<400> 281
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtc gggcgagtca ggatattagc agctggttag cctggtatca gcagaaaccg 120
gggagagccc ctaaactcct gatctatact gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttactt ttgtcaacag gctaacagtt tcccattcac 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 Val Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Arg Ala Pro Lys 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 Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ala Asn Ser Phe Pro Phe
                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
caggatatta gcagctgg 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 285
actgcatcc 9

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

<220>
<223> Synthetic

<400> 286
Thr Ala Ser
1

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

<220>
<223> Synthetic

<400> 287
caacaggcta acagtttccc attcact 27

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

<220>
<223> Synthetic

<400> 288
Gln Gln Ala Asn Ser Phe Pro Phe Thr
1 5

<210> 289
<211> 369
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 289
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc cgggggggtc cctgagactc 60
tcctgtgtag cctctggatt caccttcagc agttttgcca tgagttgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagtc attagtggta gtggtggcag cacaaatcac 180
gcagactccg tgaggggccg gttcaccatc tccagagaca attccctgaa cacggtgtat 240
ctacaaatgc acagtctgag agccgaggat acggccttat attactgtgt gaaagcggag 300
accagctctt cctacttcta ctacggtatg gacgtctggg gccaagggac cacggtcacc 360
gtctcctca 369

<210> 290
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 291
ggattcacct tcagcagttt tgcc   24

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

<220>
<223> Synthetic

<400> 292
Gly Phe Thr Phe Ser Ser Phe Ala
 1   5

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

<220>
<223> Synthetic

<400> 293
attagtggta gtggtggcag caca 24

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

<220>
<223> Synthetic

<400> 294
Ile Ser Gly Ser Gly Gly Ser Thr
1 5

<210> 295
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 295
gtgaaagcgg agaccagctc ttcctacttc tactacggta tggacgtc 48

<210> 296
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 296
Val Lys Ala Glu Thr Ser Ser Ser Tyr Phe Tyr Tyr Gly Met Asp Val
1 5 10 15

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

<220>
<223> Synthetic

<400> 297
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca ggacattagc agttatttag cctggtatca gcaaaaacca 120
gggaaagtcc ctaacctcct gatctatggt gcatcctctt tgcaacctgg ggtcccatca 180
cggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtcaacag ttaaataatt accccacttt cggcggaggg 300
accaagctgg agatcaaacg a 321

<210> 298

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 299
caggacatta gcagttat   18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 301
ggtgcatcc   9

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

<220>
<223> Synthetic

<400> 302
Gly Ala Ser
 1

<210> 303
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 303
caacagttaa ataattaccc cact 24

<210> 304
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 304
Gln Gln Leu Asn Asn Tyr Pro Thr
 1   5

<210> 305
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 305
gaagtgcagc tggtggagtc tgggggaggt gtggtacggc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatgcca tgcactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtcgcaggc attagttgga atagtggtag tatagactat 180
gcggactctg tgaagggccg attcaccatt tccagagaca acgccaaaaa ctccctgtat 240
ctgcaaatga acagtctgcg agctggggac acggccttgt attactgtgc aaaagatatt 300
ctggatctag actactacgg tttggacgtc tggggccaag ggaccacggt caccgtctcc 360
tca 363

<210> 306
<211> 121
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 306
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Arg Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20   25   30
Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Gly Ile Ser Trp Asn Ser Gly Ser Ile Asp Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Gly Asp Thr Ala Leu Tyr Tyr Cys
                85   90   95
Ala Lys Asp Ile Leu Asp Leu Asp Tyr Tyr Gly Leu Asp Val Trp Gly
            100   105   110
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
ggattcacct ttgatgatta tgcc   24

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

<220>
<223> Synthetic

<400> 308
Gly Phe Thr Phe Asp Asp Tyr Ala
 1   5

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

<220>
<223> Synthetic

<400> 309
attagttgga atagtggtag tata   24

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

<220>
<223> Synthetic

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

<210> 311
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 311
gcaaaagata ttctggatct agactactac ggtttggacg tc   42

<210> 312
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 312
Ala Lys Asp Ile Leu Asp Leu Asp Tyr Tyr Gly Leu Asp Val
 1   5   10

<210> 313
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 313
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcgagtca ggacattagc agttatttag cctggtatca gcagaaacca 120
gggaaagttc ctaacctcct gatctatgat gcatcctctt tgcaatcagg ggtcccatct 180
cggttcagtg gcagtggatc tgggacagat ttcactctca ccctcagcag cctgcagcct 240
gaagattttg ctagttatta ctgtcaaaat tataacagtg ccccgtacac ttttggccag 300
gggaccaagc tggagatcaa a   321

<210> 314
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 315
caggacatta gcagttat   18

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

<220>
<223> Synthetic

<400> 316
Gln Asp Ile Ser Ser Tyr
 1   5

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

<220>
<223> Synthetic

<400> 317
gatgcatcc   9

<210> 318
<211> 3

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 318
Asp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 319
caaaattata acagtgcccc gtacact 27

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

<220>
<223> Synthetic

<400> 320
Gln Asn Tyr Asn Ser Ala Pro Tyr Thr
 1   5

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

<220>
<223> Synthetic

<400> 321
gaagtgcaac tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatgcca tgcactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaagt attagttgga atagtggtag cataggctat 180
gcggactctg tgaagggccg attcaccatt tccagagaca acgccaagaa ttccctgtat 240
cttcaaatga acagtctgaa acctgaggac acggccttgt attactgtac aaaagatacc 300
gactacggtg actaccttga tgcttttgat atctggggcc aagggacaat ggtcgccgtc 360
gcttca 366

<210> 322
<211> 122
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 323
ggattcacct ttgatgatta tgcc   24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 325
attagttgga atagtggtag cata   24

<210> 326
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 326
Ile Ser Trp Asn Ser Gly Ser Ile
 1   5

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

<220>
<223> Synthetic

<400> 327
acaaaagata ccgactacgg tgactacctt gatgcttttg atatc   45

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

<220>
<223> Synthetic

<400> 328
Thr Lys Asp Thr Asp Tyr Gly Asp Tyr Leu Asp Ala Phe Asp Ile
 1   5   10   15

<210> 329
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 329
gatattgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacaactccg acaataagaa gtacttagct 120
tggtaccagc agaaacctgg acagcctcct aagctgctca tttactgggc atctacccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga ggatgtggca gtttattact gtcaccaata ttatactact 300
cctccgacgt tcggccaagg gaccaaggtg gaaatcaaa   339

<210> 330
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 330
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1   5   10   15
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Asn
            20   25   30
Ser Asp Asn Lys Lys Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35   40   45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala 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 His Gln
                85   90   95
Tyr Tyr Thr Thr Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100   105   110
Lys

<210> 331
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 331
cagagtgttt tatacaactc cgacaataag aagtac 36

<210> 332
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 332
Gln Ser Val Leu Tyr Asn Ser Asp Asn Lys Lys Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 333
tgggcatct 9

<210> 334
<211> 3
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 334
Trp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 335
caccaatatt atactactcc tccgacg 27

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

<220>
<223> Synthetic

<400> 336
His Gln Tyr Tyr Thr Thr Pro Pro Thr
 1   5

<210> 337
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 337
gaggtgcagc tggtggagtc tgggggaggt gtggtacggc ctggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatggca tgagctgggt ccgccaagct 120
ccagggaagg ggctggagtg tgtctctggt attaattgga atggtggtag cacagattat 180
gcagactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agccgaggac acggcctcgt attactgtgc gagagatggt 300
ggggattggg actacttcga tctctggggc cgtggcaccc tggtcactgt ctcctca 357

<210> 338
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 338
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Arg Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20   25   30
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Cys Val
        35   40   45
Ser Gly Ile Asn Trp Asn Gly Gly Ser Thr Asp Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ser Tyr Tyr Cys
                85   90   95
Ala Arg Asp Gly Gly Asp Trp Asp Tyr Phe Asp Leu Trp Gly Arg Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

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

<220>
<223> Synthetic

<400> 339
ggattcacct ttgatgatta tggc   24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 341
attaattgga atggtggtag caca   24

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

<220>
<223> Synthetic

<400> 342
Ile Asn Trp Asn Gly Gly Ser Thr
 1   5

<210> 343
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 343
gcgagagatg gtggggattg ggactacttc gatctc   36

<210> 344
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 344
Ala Arg Asp Gly Gly Asp Trp Asp Tyr Phe Asp Leu
 1   5   10

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

<220>
<223> Synthetic

<400> 345
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catatatgga gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttattt ctgtcaggag tataatgact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a   321

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

<220>
<223> Synthetic

<400> 346

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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 Asn
            20                  25                  30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80
Glu Asp Phe Ala Val Tyr Phe Cys Gln Glu Tyr Asn Asp Trp Pro Leu
                85                  90                  95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105
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<210> 347
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 347
cagagtgtta gcagcaac 18

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

<220>
<223> Synthetic

<400> 348
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Gln Ser Val Ser Ser Asn
 1               5
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<210> 349
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 349
ggagcatcc 9

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

<220>
<223> Synthetic

<400> 350
Gly Ala Ser
 1

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

<220>
<223> Synthetic

<400> 351
caggagtata atgactggcc gctcact 27

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

<220>
<223> Synthetic

<400> 352
Gln Glu Tyr Asn Asp Trp Pro Leu Thr
 1   5

<210> 353
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 353
gaggtgcaac tggtggagtc tgggggaggt gtggtacggc ctggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatggca tgagctgggt ccgccaagct 120
ccagggaagg ggctggagtg tgtctctggt attagttgga atggtggtaa cacagattat 180
gcagactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agccgaggac acggccttgt atcactgtgc gagagatggt 300
ggggattggg actacttcga tctctggggc cgtggcaccc tggtcactgt ctcctca 357

<210> 354
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 354
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Arg Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr

```
            20                  25                  30
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Cys Val
        35                  40                  45
Ser Gly Ile Ser Trp Asn Gly Gly Asn Thr Asp Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr His Cys
                85                  90                  95
Ala Arg Asp Gly Gly Asp Trp Asp Tyr Phe Asp Leu Trp Gly Arg Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
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<210> 355
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 355
ggattcacct ttgatgatta tggc 24

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

<220>
<223> Synthetic

<400> 356
Gly Phe Thr Phe Asp Asp Tyr Gly
 1   5

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

<220>
<223> Synthetic

<400> 357
attagttgga atggtggtaa caca 24

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

<220>
<223> Synthetic

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

<210> 359
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 359
gcgagagatg gtggggattg ggactacttc gatctc   36

<210> 360
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 360
Ala Arg Asp Gly Gly Asp Trp Asp Tyr Phe Asp Leu
 1   5   10

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

<220>
<223> Synthetic

<400> 361
gaaatactga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagt agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catatatgga gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctta ccatcagcag cctgcagtct 240
gaagattttg caatttatta ctgtcaggag tataatgact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a   321

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

<220>
<223> Synthetic

<400> 362
Glu Ile Leu 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 Asn
            20   25   30

```
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35                  40                  45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80
Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Glu Tyr Asn Asp Trp Pro Leu
                85                  90                  95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105
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<210> 363
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 363
cagagtgtta gtagcaac 18

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

<220>
<223> Synthetic

<400> 364
```
Gln Ser Val Ser Ser Asn
 1               5
```

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

<220>
<223> Synthetic

<400> 365
ggagcatcc 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
caggagtata atgactggcc gctcact 27

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

<220>
<223> Synthetic

<400> 368
Gln Glu Tyr Asn Asp Trp Pro Leu Thr
1 5

<210> 369
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 369
gaagtgcaac tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatgcca tgtactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaggt attagttgga atagtggcag cataggctat 180
gcggactctg tgaagggccg attcaccatc tctagagaca acgccaagaa ctccctgtat 240
ctgcaaatgg acagcctgag agctgaggac acggccttgt attactgtgc aagagatatg 300
atggaagttg acctctacgg tatggacgtc tggggccaag ggaccacggt caccgtctcc 360
tca 363

<210> 370
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 370
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 Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
20 25 30
Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

```
Ser Gly Ile Ser Trp Asn Ser Gly Ser Ile Gly Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65                  70                  75                  80
Leu Gln Met Asp Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr Tyr Cys
                85                  90                  95
Ala Arg Asp Met Met Glu Val Asp Leu Tyr Gly Met Asp Val Trp Gly
            100                 105                 110
Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
```

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

<220>
<223> Synthetic

<400> 371
ggattcacct ttgatgatta tgcc 24

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

<220>
<223> Synthetic

<400> 372
```
Gly Phe Thr Phe Asp Asp Tyr Ala
 1               5
```

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

<220>
<223> Synthetic

<400> 373
attagttgga atagtggcag cata 24

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

<220>
<223> Synthetic

<400> 374
```
Ile Ser Trp Asn Ser Gly Ser Ile
 1               5
```

<210> 375
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 375
gcaagagata tgatggaagt tgacctctac ggtatggacg tc 42

<210> 376
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 376
Ala Arg Asp Met Met Glu Val Asp Leu Tyr Gly Met Asp Val
1 5 10

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

<220>
<223> Synthetic

<400> 377
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacg 60
atcacttgtc gggcgagtca ggatattagc agttggttag cctggtatca gcagaaacca 120
gggacagccc ctaagttcct gatctatgaa acatccagtt tgcaaagtgg ggtcccttca 180
aggttcagcg gcagtggatc tgggacagat ttcattctca ccatcagtag cctgcagcct 240
gaagattttg caacttacta ttgtcaacaa actgacagtt tcccgcacac ttttggccag 300
gggaccaagc tggagatcag a 321

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

<220>
<223> Synthetic

<400> 378
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Trp
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Thr Ala Pro Lys Phe Leu Ile
35 40 45
Tyr Glu Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly

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

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

<220>
<223> Synthetic

<400> 379
caggatatta gcagttgg 18

<210> 380
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 380
Gln Asp Ile Ser Ser Trp
 1   5

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

<220>
<223> Synthetic

<400> 381
gaaacatcc 9

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

<220>
<223> Synthetic

<400> 382
Glu Thr Ser
 1

<210> 383

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

<220>
<223> Synthetic

<400> 383
caacaaactg acagtttccc gcacact 27

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

<220>
<223> Synthetic

<400> 384
Gln Gln Thr Asp Ser Phe Pro His Thr
1 5

<210> 385
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 385
gaggtgcagc tggtggagtc tgggggaggt gtggtacggc ctgggggtc cctgagactc 60
tcctgtgtag cctctggatt cacctttgat gattatggca tgagctgggt ccgccaagct 120
ccagggaagg ggctggagtg tgtctctggt attaattgga atggtggtag cacagattat 180
gcagactctg tgaagggccg attcactatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agccgaggac acggccttgt atcactgtgc gagagatggt 300
ggggattggg actacttcga tctctggggc cgtggcaccc tggtcactgt ctcctca 357

<210> 386
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

```
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr His Cys
                85                  90                  95
Ala Arg Asp Gly Gly Asp Trp Asp Tyr Phe Asp Leu Trp Gly Arg Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 387
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 387
ggattcacct ttgatgatta tggc 24

<210> 388
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 388
```
Gly Phe Thr Phe Asp Asp Tyr Gly
 1               5
```

<210> 389
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 389
attaattgga atggtggtag caca 24

<210> 390
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 390
```
Ile Asn Trp Asn Gly Gly Ser Thr
 1               5
```

<210> 391
<211> 36

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 391
gcgagagatg gtggggattg ggactacttc gatctc 36

<210> 392
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 392
Ala Arg Asp Gly Gly Asp Trp Asp Tyr Phe Asp Leu
 1   5   10

<210> 393
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 393
gaaatactga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catatatgga gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg caatttatta ctgtcaggag tataatgact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

<210> 394
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 394
Glu Ile Leu 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 Asn
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Glu Tyr Asn Asp Trp Pro Leu

```
                85                  90                  95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105


<210> 395
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 395
cagagtgtta gcagcaac                                                  18

<210> 396
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 396
Gln Ser Val Ser Ser Asn
 1               5


<210> 397
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 397
ggagcatcc                                                             9

<210> 398
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 398
Gly Ala Ser
 1


<210> 399
<211> 27
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Synthetic

<400> 399
caggagtata atgactggcc gctcact 27

<210> 400
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 401
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 401
gaggtgcaac tggtggagtc tgggggaggc ctggtcaagc ctgggggggtc cctgagactc 60
tcctgtgtag cctctggatt caccttcagt agctataaca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcattt ataagtggta gtagtaatta catacactac 180
gcagactcag tgaagggccg attcaccatt tccagagaca acgccaagaa tgcactgtat 240
ctgcagatga acagcctgag agccgaggac acggctgtat attactgtgc gagagacgac 300
ggtgactacg actggttcga ccctggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 402
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 402
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Asn Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Phe Ile Ser Gly Ser Ser Asn Tyr Ile His Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ala Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Asp Asp Gly Asp Tyr Asp Trp Phe Asp Pro Trp Gly Gln Gly
100 105 110

Thr Leu Val Thr Val Ser Ser
        115

<210> 403
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 403
ggattcacct tcagtagcta taac 24

<210> 404
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 404
Gly Phe Thr Phe Ser Ser Tyr Asn
 1   5

<210> 405
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 405
ataagtggta gtagtaatta cata 24

<210> 406
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 406
Ile Ser Gly Ser Ser Asn Tyr Ile
 1   5

<210> 407
<211> 36
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 407
gcgagagacg acggtgacta cgactggttc gacccc 36

<210> 408
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 408
Ala Arg Asp Asp Gly Asp Tyr Asp Trp Phe Asp Pro
1 5 10

<210> 409
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 409
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagt agtagttact tagcctggta ccagcaaaaa 120
cctggccagg ctcccaggct cctcatctat ggtacatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgta ttactgtcag cagtatgata actcatacac ttttggccag 300
gggaccaagc tggagatcaa a 321

<210> 410
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 410
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 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 Glu
65 70 75 80
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Asn Ser Tyr
85 90 95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 411
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 411
cagagtgtta gtagtagtta c 21

<210> 412
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 412
Gln Ser Val Ser Ser Ser Tyr
1 5

<210> 413
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 413
ggtacatcc 9

<210> 414
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 414
Gly Thr Ser
1

<210> 415
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 415

cagcagtatg ataactcata cact 24

<210> 416
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 416
Gln Gln Tyr Asp Asn Ser Tyr Thr
1 5

<210> 417
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 417
gaggtgcagc tggtgcagtc tgggggaggc ctggtcaagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt aactttaaca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcattc attagtagtc ttagtactta tacatactac 180
gcagactcag tgaagggccg attcaccatc tccagagaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagacgac 300
ggtgaccacg actggttcga ccccctggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 418
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 418
Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Phe
20 25 30
Asn Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Phe Ile Ser Ser Leu Ser Thr Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Asp Asp Gly Asp His Asp Trp Phe Asp Pro Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 419
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 419
ggattcacct tcagtaactt taac 24

<210> 420
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 420
Gly Phe Thr Phe Ser Asn Phe Asn
1 5

<210> 421
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 421
attagtagtc ttagtactta taca 24

<210> 422
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 422
Ile Ser Ser Leu Ser Thr Tyr Thr
1 5

<210> 423
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 423
gcgagagacg acggtgacca cgactggttc gacccc 36

<210> 424
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 424
Ala Arg Asp Asp Gly Asp His Asp Trp Phe Asp Pro
 1   5   10

<210> 425
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 425
gaaattgtgt tgacgcagtc tccagacacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagt agcaactact tagcctggta ccaacaaaaa 120
cctggccagg ctcccaggct cctcatctat agtgcatcca acagggccac tggcatccca 180
gacagattca gtggcagtgg gtctgggaca gacttcactc tcaccatcag ccgactggag 240
cctgaagatt ttgcagtgta ttactgtcaa cagtatgata gttcatacac ttttggccag 300
gggaccaagc tggagatcaa a   321

<210> 426
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 426
Glu Ile Val Leu Thr Gln Ser Pro Asp 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 Asn
            20   25   30
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
        35   40   45
Ile Tyr Ser Ala Ser Asn 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 Asp Ser Ser Tyr
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100   105

<210> 427
<211> 21
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 427
cagagtgtta gtagcaacta c 21

<210> 428
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 428
Gln Ser Val Ser Ser Asn Tyr
1 5

<210> 429
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 429
agtgcatcc 9

<210> 430
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 430
Ser Ala Ser
1

<210> 431
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 431
caacagtatg atagttcata cact 24

<210> 432
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 432
Gln Gln Tyr Asp Ser Ser Tyr Thr
 1   5

<210> 433
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 433
gaaatgcagc tggtagagtc tgggggaggc ttggtacagc ctgacaggtc cctgagactc 60
tcctgtgcag cctctggatt caactttgat aattatgcca tacactgggt ccggcaagct 120
ccagggaagg gcctcgagtg ggtctcaggt attagttgga atagtggtaa cataggttat 180
gcggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgttt 240
ctgctaatga acagtctgag acctgacgac tcggccttgt attactgtac aagaggatac 300
aactggaacg cgttatcccc tatggacgtc tggggccaag ggaccacggt caccgtctcc 360
tca   363

<210> 434
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 434
Glu Met Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Asp Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Asp Asn Tyr
            20   25   30
Ala Ile 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 Asn Ile Gly Tyr Ala Asp 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 Leu Met Asn Ser Leu Arg Pro Asp Asp Ser Ala Leu Tyr Tyr Cys
                85   90   95
Thr Arg Gly Tyr Asn Trp Asn Ala Leu Ser Pro Met Asp Val Trp Gly
            100   105   110
Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 435
<211> 24
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 435
ggattcaact ttgataatta tgcc 24

<210> 436
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 436
Gly Phe Asn Phe Asp Asn Tyr Ala
1 5

<210> 437
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 437
attagttgga atagtggtaa cata 24

<210> 438
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 438
Ile Ser Trp Asn Ser Gly Asn Ile
1 5

<210> 439
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 439
acaagaggat acaactggaa cgcgttatcc cctatggacg tc 42

<210> 440
<211> 14

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 440
Thr Arg Gly Tyr Asn Trp Asn Ala Leu Ser Pro Met Asp Val
 1   5   10

<210> 441
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 441
gacatccaaa tgacccagtc tccatcctcc ctgtctgcat ctgtagggga cagagtcacc 60
gtcacttgcc gggcgagtca gggcattagc aattatttag cctggtatca gcaaaaacct 120
ggtaaagttc ctaaactcct gatctatgct gcatccactt tgcaatcagg ggtcccatct 180
cggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagatgttg caagttatta ctgtcaaaac tataacagtg cccctatgac gttcggccaa 300
gggaccaagg tggaaatcaa a   321

<210> 442
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 442
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Val Thr Cys Arg Ala Ser Gln Gly 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 Ser Tyr Tyr Cys Gln Asn Tyr Asn Ser Ala Pro Met
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 443
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 443
cagggcatta gcaattat 18

<210> 444
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 444
Gln Gly Ile Ser Asn Tyr
1 5

<210> 445
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 445
gctgcatcc 9

<210> 446
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 446
Ala Ala Ser
1

<210> 447
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 447
caaaactata acagtgcccc tatgacg 27

<210> 448
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 448
Gln Asn Tyr Asn Ser Ala Pro Met Thr
 1   5

<210> 449
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 449
caggtgcagc tacaacagtg gggcgcagga ctgttgaagc cttcggagac cctgtccctc 60
acctgcgctg tctatggtgg gtccttcagt tcttactact ggagctggat ccgccagccc 120
ccagggaagg ggctggaatg gattggggaa atcaatcatc gtggaagcac caactacaac 180
ccgtccctca agagtcgagt caccatctca gtagacacgt ccaagaacca gttctccctg 240
aagctgaggt ctgtgaccgc cgcggacacg gctgtgtatt actgtgcgcg aggggggtta 300
gcagctcgtc cggactggca cttctttgac tactggggcc agggaaccct ggtcaccgtc 360
tcctca   366

<210> 450
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 450
Gln Val Gln Leu Gln Gln Trp Asp Ala Gly Leu Leu Lys Pro Ser Glu
 1   5   10   15
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Ser Tyr
            20   25   30
Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
        35   40   45
Gly Glu Ile Asn His Arg Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
    50   55   60
Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65   70   75   80
Lys Leu Arg Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
                85   90   95
Arg Gly Gly Val Ala Ala Arg Pro Asp Trp His Phe Phe Asp Tyr Trp
            100   105   110
Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 451
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 451
ggtgggtcct tcagttctta ctac 24

<210> 452
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 452
Gly Gly Ser Phe Ser Ser Tyr Tyr
1 5

<210> 453
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 453
atcaatcatc gtggaagcac c 21

<210> 454
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 454
Ile Asn His Arg Gly Ser Thr
1 5

<210> 455
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 455
gcgcgagggg gggtagcagc tcgtccggac tggcacttct ttgactac 48

<210> 456
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 456
Ala Arg Gly Gly Val Ala Ala Arg Pro Asp Trp His Phe Phe Asp Tyr
 1   5   10   15

<210> 457
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 457
gacatccaga tgacccagtc tccatcctcc ctctctgcct ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca ggtcattcga aatgatttag gctggtttca gcagagacca 120
gggaaagccc ctaagcgcct gatctatgct gcatccagtt tacaaagtga ggtcccatca 180
agattcagcg gcagtggatc tgggacagaa ttcactctca caatcaccag cctgcagcct 240
gaagattttg caacttatta ctgtcttcag cataatagtt acccgctcac cttcggccaa 300
gggacacgac tggagattaa a   321

<210> 458
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 458
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 Val Ile Arg Asn Asp
            20   25   30
Leu Gly Trp Phe Gln Gln Arg Pro Gly Lys Ala Pro Lys Arg Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Glu Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro Leu
                85   90   95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100   105

<210> 459
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 459

caggtcattc gaaatgat 18

<210> 460
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 460
Gln Val Ile Arg Asn Asp
1 5

<210> 461
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 461
gctgcatcc 9

<210> 462
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 462
Ala Ala Ser
1

<210> 463
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 463
cttcagcata atagttaccc gctcacc 27

<210> 464
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 464
Leu Gln His Asn Ser Tyr Pro Leu Thr
 1   5

<210> 465
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 465
gaggtgcagc tggtggagtc tgggggaggt gtggtacggc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatggca tgagctgggt ccgccaagtt 120
ccagggaagg ggctggagtg ggtctctggt cttaattgga atggtggaat cacaggttat 180
acagactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agccgaggac acggccttct atcactgtgc gcgagatagt 300
ggggatcagg atgcttttga tatatggggc caggggacaa tggtcaccgt ctcctca   357

<210> 466
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 466
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Arg Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr
            20   25   30
Gly Met Ser Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Leu Asn Trp Asn Gly Gly Ile Thr Gly Tyr Thr Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Phe Tyr His Cys
                85   90   95
Ala Arg Asp Ser Gly Asp Gln Asp Ala Phe Asp Ile Trp Gly Gln Gly
            100   105   110
Thr Met Val Thr Val Ser Ser
        115

<210> 467
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 467
ggattcacct ttgatgatta tggc   24

<210> 468
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 468
Gly Phe Thr Phe Asp Asp Tyr Gly
 1   5

<210> 469
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 469
cttaattgga atggtggaat caca   24

<210> 470
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 470
Leu Asn Trp Asn Gly Gly Ile Thr
 1   5

<210> 471
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 471
gcgcgagata gtgggggatca ggatgctttt gatata   36

<210> 472
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 472

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Ala Arg Asp Ser Gly Asp Gln Asp Ala Phe Asp Ile
 1               5                  10
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<210> 473
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 473
caaatagtga tgacgcagtc tccagccacc ctgtctgtat ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtattact ccctacttag cctggtacca gcaaaaacct 120
ggccagactc ccaggctcct catctatggt gtatccaccc gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tatgacaact ggtatacttt tggccagggg 300
accaagctgg agatcaaa 318

<210> 474
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 474
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Gln 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 Ile Thr Pro Tyr
            20                  25                  30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Thr Pro Arg Leu Leu Ile
        35                  40                  45
Tyr Gly Val Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65                  70                  75                  80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Asn Trp Tyr Thr
                85                  90                  95
Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100                 105
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<210> 475
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 475
cagagtatta ctccctac 18

<210> 476
<211> 6

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 476
Gln Ser Ile Thr Pro Tyr
 1   5

<210> 477
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 477
ggtgtatcc   9

<210> 478
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 478
Gly Val Ser
 1

<210> 479
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 479
cagcagtatg acaactggta tact   24

<210> 480
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 480
Gln Gln Tyr Asp Asn Trp Tyr Thr
 1   5

<210> 481
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 481
caggtgcagg tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcgg cctctggatt caccttcagt gactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcaatt atatcatatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccgtg tccagagaca attccaagaa cactctgtat 240
ctgcaattgg acagcctgag acctgaggac gcggctgtct tttactgtgc gagagagggg 300
gcatttaact tagactacta cgccatggac gtctggggcc aagggacaac ggtcaccgtc 360
tcctca 366

<210> 482
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 482
Gln Val Gln Val 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 Asp Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Ile Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala 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 Leu Asp Ser Leu Arg Pro Glu Asp Ala Ala Val Phe Tyr Cys
                85   90   95
Ala Arg Glu Gly Ala Phe Asn Leu Asp Tyr Tyr Ala Met Asp Val Trp
            100   105   110
Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

<210> 483
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 483
ggattcacct tcagtgacta tggc 24

<210> 484
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 484
Gly Phe Thr Phe Ser Asp Tyr Gly
 1   5

<210> 485
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 485
atatcatatg atggaagtaa taaa   24

<210> 486
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 486
Ile Ser Tyr Asp Gly Ser Asn Lys
 1   5

<210> 487
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 487
gcgagagagg gggcatttaa cttagactac tacgccatgg acgtc   45

<210> 488
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 488
Ala Arg Glu Gly Ala Phe Asn Leu Asp Tyr Tyr Ala Met Asp Val
 1   5   10   15

<210> 489
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 489
gccatccaga tgacccagtc tccatcctcc ctgtctgcct ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca ggacattaga aatgatttag gttggtatca gcagaaacca 120
gggaaagccc ctaacctcct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtgggtc tggcacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa gattccaatt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa g 321

<210> 490
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 490
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 Tyr Gln Gln Lys Pro Gly Lys Ala Pro Asn Leu Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Ser Asn Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 491
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 491
caggacatta gaaatgat 18

<210> 492
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 492
Gln Asp Ile Arg Asn Asp
 1   5

<210> 493
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 493
gctgcatcc   9

<210> 494
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 494
Ala Ala Ser
 1

<210> 495
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 495
ctacaagatt ccaattaccc gctcact   27

<210> 496
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 496
Leu Gln Asp Ser Asn Tyr Pro Leu Thr
 1   5

<210> 497
<211> 670

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 497
Ser Glu Val Gly Asn Ser Gln Ala Val Cys Pro Gly Thr Leu Asn Gly
 1   5   10   15
Leu Ser Val Thr Gly Asp Ala Glu Asn Gln Tyr Gln Thr Leu Tyr Lys
            20   25   30
Leu Tyr Glu Arg Cys Glu Val Val Met Gly Asn Leu Glu Ile Val Leu
        35   40   45
Thr Gly His Asn Ala Asp Leu Ser Phe Leu Gln Trp Ile Arg Glu Val
    50   55   60
Thr Gly Tyr Val Leu Val Ala Met Asn Glu Phe Ser Thr Leu Pro Leu
65   70   75   80
Pro Asn Leu Arg Val Val Arg Gly Thr Gln Val Tyr Asp Gly Lys Phe
                85   90   95
Ala Ile Phe Val Met Leu Asn Tyr Asn Thr Asn Ser Ser His Ala Leu
            100   105   110
Arg Gln Leu Arg Leu Thr Gln Leu Thr Glu Ile Leu Ser Gly Gly Val
        115   120   125
Tyr Ile Glu Lys Asn Asp Lys Leu Cys His Met Asp Thr Ile Asp Trp
    130   135   140
Arg Asp Ile Val Arg Asp Arg Asp Ala Glu Ile Val Val Lys Asp Asn
145   150   155   160
Gly Arg Ser Cys Pro Pro Cys His Glu Val Cys Lys Gly Arg Cys Trp
                165   170   175
Gly Pro Gly Ser Glu Asp Cys Gln Thr Leu Thr Lys Thr Ile Cys Ala
            180   185   190
Pro Gln Cys Asn Gly His Cys Phe Gly Pro Asn Pro Asn Gln Cys Cys
        195   200   205
His Asp Glu Cys Ala Gly Gly Cys Ser Gly Pro Gln Asp Thr Asp Cys
    210   215   220
Phe Ala Cys Arg His Phe Asn Asp Ser Gly Ala Cys Val Pro Arg Cys
225   230   235   240
Pro Gln Pro Leu Val Tyr Asn Lys Leu Thr Phe Gln Leu Glu Pro Asn
                245   250   255
Pro His Thr Lys Tyr Gln Tyr Gly Gly Val Cys Val Ala Ser Cys Pro
            260   265   270
His Asn Phe Val Val Asp Gln Thr Ser Cys Val Arg Ala Cys Pro Pro
        275   280   285
Asp Lys Met Glu Val Asp Lys Asn Gly Leu Lys Met Cys Glu Pro Cys
    290   295   300
Gly Gly Leu Cys Pro Lys Ala Cys Glu Gly Thr Gly Ser Gly Ser Arg
305   310   315   320
Phe Gln Thr Val Asp Ser Ser Asn Ile Asp Gly Phe Val Asn Cys Thr
                325   330   335
Lys Ile Leu Gly Asn Leu Asp Phe Leu Ile Thr Gly Leu Asn Gly Asp
            340   345   350
Pro Trp His Lys Ile Pro Ala Leu Asp Pro Glu Lys Leu Asn Val Phe
        355   360   365
Arg Thr Val Arg Glu Ile Thr Gly Tyr Leu Asn Ile Gln Ser Trp Pro
    370   375   380
Pro His Met His Asn Phe Ser Val Phe Ser Asn Leu Thr Thr Ile Gly
385   390   395   400
Gly Arg Ser Leu Tyr Asn Arg Gly Phe Ser Leu Leu Ile Met Lys Asn

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                405                 410                 415
Leu Asn Val Thr Ser Leu Gly Phe Arg Ser Leu Lys Glu Ile Ser Ala
            420                 425                 430
Gly Arg Ile Tyr Ile Ser Ala Asn Arg Gln Leu Cys Tyr His His Ser
        435                 440                 445
Leu Asn Trp Thr Lys Val Leu Arg Gly Pro Thr Glu Glu Arg Leu Asp
    450                 455                 460
Ile Lys His Asn Arg Pro Arg Arg Asp Cys Val Ala Glu Gly Lys Val
465                 470                 475                 480
Cys Asp Pro Leu Cys Ser Ser Gly Gly Cys Trp Gly Pro Gly Pro Gly
                485                 490                 495
Gln Cys Leu Ser Cys Arg Asn Tyr Ser Arg Gly Gly Val Cys Val Thr
            500                 505                 510
His Cys Asn Phe Leu Asn Gly Glu Pro Arg Glu Phe Ala His Glu Ala
        515                 520                 525
Glu Cys Phe Ser Cys His Pro Glu Cys Gln Pro Met Glu Gly Thr Ala
    530                 535                 540
Thr Cys Asn Gly Ser Gly Ser Asp Thr Cys Ala Gln Cys Ala His Phe
545                 550                 555                 560
Arg Asp Gly Pro His Cys Val Ser Ser Cys Pro His Gly Val Leu Gly
                565                 570                 575
Ala Lys Gly Pro Ile Tyr Lys Tyr Pro Asp Val Gln Asn Glu Cys Arg
            580                 585                 590
Pro Cys His Glu Asn Cys Thr Gln Gly Cys Lys Gly Pro Glu Leu Gln
        595                 600                 605
Asp Cys Leu Gly Gln Gly Thr Lys Thr His Leu Arg Arg Gly Ser Gly
    610                 615                 620
Trp Arg Thr Lys Thr His Leu Arg Arg Gly Ser Ala Pro Ser Pro Ser
625                 630                 635                 640
Pro Leu Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln
                645                 650                 655
Lys Leu Ile Ser Glu Glu Asp Leu His His His His His His
            660                 665                 670
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<210> 498
<211> 840
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 498

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Ser Glu Val Gly Asn Ser Gln Ala Val Cys Pro Gly Thr Leu Asn Gly
 1               5                  10                  15
Leu Ser Val Thr Gly Asp Ala Glu Asn Gln Tyr Gln Thr Leu Tyr Lys
            20                  25                  30
Leu Tyr Glu Arg Cys Glu Val Val Met Gly Asn Leu Glu Ile Val Leu
        35                  40                  45
Thr Gly His Asn Ala Asp Leu Ser Phe Leu Gln Trp Ile Arg Glu Val
    50                  55                  60
Thr Gly Tyr Val Leu Val Ala Met Asn Glu Phe Ser Thr Leu Pro Leu
65                  70                  75                  80
Pro Asn Leu Arg Val Val Arg Gly Thr Gln Val Tyr Asp Gly Lys Phe
                85                  90                  95
Ala Ile Phe Val Met Leu Asn Tyr Asn Thr Asn Ser Ser His Ala Leu
            100                 105                 110
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Arg Gln Leu Arg Leu Thr Gln Leu Thr Glu Ile Leu Ser Gly Gly Val
        115                 120                 125
Tyr Ile Glu Lys Asn Asp Lys Leu Cys His Met Asp Thr Ile Asp Trp
    130                 135                 140
Arg Asp Ile Val Arg Asp Arg Asp Ala Glu Ile Val Val Lys Asp Asn
145                 150                 155                 160
Gly Arg Ser Cys Pro Pro Cys His Glu Val Cys Lys Gly Arg Cys Trp
                165                 170                 175
Gly Pro Gly Ser Glu Asp Cys Gln Thr Leu Thr Lys Thr Ile Cys Ala
            180                 185                 190
Pro Gln Cys Asn Gly His Cys Phe Gly Pro Asn Pro Asn Gln Cys Cys
        195                 200                 205
His Asp Glu Cys Ala Gly Gly Cys Ser Gly Pro Gln Asp Thr Asp Cys
    210                 215                 220
Phe Ala Cys Arg His Phe Asn Asp Ser Gly Ala Cys Val Pro Arg Cys
225                 230                 235                 240
Pro Gln Pro Leu Val Tyr Asn Lys Leu Thr Phe Gln Leu Glu Pro Asn
                245                 250                 255
Pro His Thr Lys Tyr Gln Tyr Gly Gly Val Cys Val Ala Ser Cys Pro
            260                 265                 270
His Asn Phe Val Val Asp Gln Thr Ser Cys Val Arg Ala Cys Pro Pro
        275                 280                 285
Asp Lys Met Glu Val Asp Lys Asn Gly Leu Lys Met Cys Glu Pro Cys
    290                 295                 300
Gly Gly Leu Cys Pro Lys Ala Cys Glu Gly Thr Gly Ser Gly Ser Arg
305                 310                 315                 320
Phe Gln Thr Val Asp Ser Ser Asn Ile Asp Gly Phe Val Asn Cys Thr
                325                 330                 335
Lys Ile Leu Gly Asn Leu Asp Phe Leu Ile Thr Gly Leu Asn Gly Asp
            340                 345                 350
Pro Trp His Lys Ile Pro Ala Leu Asp Pro Glu Lys Leu Asn Val Phe
        355                 360                 365
Arg Thr Val Arg Glu Ile Thr Gly Tyr Leu Asn Ile Gln Ser Trp Pro
    370                 375                 380
Pro His Met His Asn Phe Ser Val Phe Ser Asn Leu Thr Thr Ile Gly
385                 390                 395                 400
Gly Arg Ser Leu Tyr Asn Arg Gly Phe Ser Leu Leu Ile Met Lys Asn
                405                 410                 415
Leu Asn Val Thr Ser Leu Gly Phe Arg Ser Leu Lys Glu Ile Ser Ala
            420                 425                 430
Gly Arg Ile Tyr Ile Ser Ala Asn Arg Gln Leu Cys Tyr His His Ser
        435                 440                 445
Leu Asn Trp Thr Lys Val Leu Arg Gly Pro Thr Glu Glu Arg Leu Asp
    450                 455                 460
Ile Lys His Asn Arg Pro Arg Arg Asp Cys Val Ala Glu Gly Lys Val
465                 470                 475                 480
Cys Asp Pro Leu Cys Ser Ser Gly Gly Cys Trp Gly Pro Gly Pro Gly
                485                 490                 495
Gln Cys Leu Ser Cys Arg Asn Tyr Ser Arg Gly Gly Val Cys Val Thr
            500                 505                 510
His Cys Asn Phe Leu Asn Gly Glu Pro Arg Glu Phe Ala His Glu Ala
        515                 520                 525
Glu Cys Phe Ser Cys His Pro Glu Cys Gln Pro Met Glu Gly Thr Ala
    530                 535                 540
Thr Cys Asn Gly Ser Gly Ser Asp Thr Cys Ala Gln Cys Ala His Phe
545                 550                 555                 560
Arg Asp Gly Pro His Cys Val Ser Ser Cys Pro His Gly Val Leu Gly
                565                 570                 575
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Ala Lys Gly Pro Ile Tyr Lys Tyr Pro Asp Val Gln Asn Glu Cys Arg
            580                 585                 590
Pro Cys His Glu Asn Cys Thr Gln Gly Cys Lys Gly Pro Glu Leu Gln
        595                 600                 605
Asp Cys Leu Gly Gln Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
    610                 615                 620
Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
625                 630                 635                 640
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
                645                 650                 655
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
            660                 665                 670
Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
        675                 680                 685
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
    690                 695                 700
Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
705                 710                 715                 720
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
                725                 730                 735
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
            740                 745                 750
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
        755                 760                 765
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
    770                 775                 780
Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
785                 790                 795                 800
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
                805                 810                 815
Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
            820                 825                 830
Ser Leu Ser Leu Ser Pro Gly Lys
        835                 840
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<210> 499
<211> 846
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 499

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

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

```
                565                 570                 575
Ala Lys Gly Pro Ile Tyr Lys Tyr Pro Asp Val Gln Asn Glu Cys Arg
            580                 585                 590
Pro Cys His Glu Asn Cys Thr Gln Gly Cys Lys Gly Pro Glu Leu Gln
        595                 600                 605
Asp Cys Leu Gly Gln Glu Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro
    610                 615                 620
Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser Val Phe
625                 630                 635                 640
Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu Ser Pro
                645                 650                 655
Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro Asp Val
            660                 665                 670
Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala Gln Thr
        675                 680                 685
Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val Ser Ala
    690                 695                 700
Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe Lys Cys
705                 710                 715                 720
Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser
                725                 730                 735
Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu Pro Pro
            740                 745                 750
Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Thr Cys Met Val
        755                 760                 765
Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly
    770                 775                 780
Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val Leu Asp Ser Asp
785                 790                 795                 800
Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val Glu Lys Lys Asn Trp
                805                 810                 815
Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly Leu His
            820                 825                 830
Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys
        835                 840                 845
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<210> 500
<211> 227
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 500

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

```
Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
            100                 105                 110
Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
        115                 120                 125
Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
    130                 135                 140
Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
145                 150                 155                 160
Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
                165                 170                 175
Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
            180                 185                 190
Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
        195                 200                 205
His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
    210                 215                 220
Pro Gly Lys
225
```