<110> REGENERON PHARMACEUTICALS, INC.

<120> ANTI-PRLR ANTIBODIES AND USES THEREOF

<130> 9203-WO

<140> TBA
<141> Filed herewith

<150> 61/868,185
<151> 2013-08-21

<150> 62/012,440
<151> 2014-06-16

<150> 62/026,088
<151> 2014-07-18

<160> 404

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ccaggcaagg ggctggagtg ggtggcactt atatcatttg atggaactac taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctatat 240
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            20   25   30
Gly Met Val Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Leu Ile Ser Phe Asp Gly Thr Thr 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

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Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
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Val Gly Ala Ile Ala Ala Ala Ala Phe Asp Leu Trp Gly Arg Gly Thr
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<210> 6
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ggccaggctc ccaggctcct catctatagt gcatccgcca gggccactgg tatcccagcc 180
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gaagattttg cagtttatta ctgtcagcag tataataact ggcccatgta cacttttggc 300
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Asp
            20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35 40 45
Tyr Ser Ala Ser Ala Arg Ala Thr Gly Ile Pro Ala Arg Phe Thr Gly
    50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65 70 75 80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Met
                85 90 95
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 14
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<210> 16
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<400> 16
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ccagggaagg gactggagtg ggtctctggt tttaattgga atggtggtag tacaaattat 180
gcagaatctg tgaagggccg attcaccatc tccagagaca acgccaggaa ctccctgttt 240
ctgcaaatga acagtctgag agccgaggac acggccttat attactgtgt gagaggtcgc 300
agtggctggt tcaatgatgc ttttgatgtc tggggcccag gaacaatggt caccgtctct 360
tca   363

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

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<400> 19
ggattcagct tcgatgatca tggc 24

<210> 20
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<400> 20
Gly Phe Ser Phe Asp Asp His Gly
 1 5

<210> 21
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<220>
<223> Synthetic

<400> 21
tttaattgga atggtggtag taca 24

<210> 22
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<220>
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<400> 22
Phe Asn Trp Asn Gly Gly Ser Thr
 1 5

<210> 23
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<400> 23
gtgagaggtc gcagtggctg gttcaatgat gcttttgatg tc 42

<210> 24
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<400> 24
Val Arg Gly Arg Ser Gly Trp Phe Asn Asp Ala Phe Asp Val
 1   5   10

<210> 25
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<400> 25
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ctctcctgca gggccagtca gactattaac agcaactact tagcctggta ccgacagaaa 120
cctggccaga ctcccaggct cctcatctat ggtacatcca gtagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttctctc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgtt ttactgtcag cagtatgctg gtttacccac tttcggccct 300
gggaccaaag tggatatcaa a   321

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

<210> 27
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<400> 27
cagactatta acagcaacta c   21

<210> 28
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<220>
<223> Synthetic

<400> 28
Gln Thr Ile Asn Ser Asn Tyr
 1   5

<210> 29
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
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<400> 29
ggtacatcc   9

<210> 30
<211> 3
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<400> 30
Gly Thr Ser
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<210> 31
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<400> 31
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<400> 32
Gln Gln Tyr Ala Gly Leu Pro Thr
 1   5

<210> 33
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ccagggaagg gactggactg ggtgggcaac ataaagcaag atggaagtga acaaaactat 180
gtggactctg tgaggggccg attcaccatc tccagagaca atgccaagaa ctcgctgttt 240
ctgcaaatga acagtctgcg agccgaggac acgggtgtgt attactgtgc gactcttctg 300
actaagggtg actactgggg ccagggaacc ctggtcaccg tctcctca 348

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

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<400> 35
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<210> 36
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Gly Phe Thr Phe Ser Thr Tyr Trp
 1   5

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<400> 37
ataaagcaag atggaagtga acaa   24

<210> 38
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<400> 38
Ile Lys Gln Asp Gly Ser Glu Gln
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<210> 39
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<400> 39
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<210> 40
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<400> 40
Ala Thr Leu Leu Thr Lys Gly Asp Tyr
 1   5

<210> 41
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gggaaagccc ctaagtccct gatctatgct gcatccattt tgcaaggtgg ggtcccatca 180
aggttcagcg gcagtggata tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgccgacag tataagactt acccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

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

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<400> 43
caggacatta gtaattat 18

<210> 44
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<400> 44
Gln Asp Ile Ser Asn Tyr
 1   5

<210> 45
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<400> 45
gctgcatcc 9

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<400> 46
Ala Ala Ser
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<210> 47
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<400> 47
cgacagtata agacttaccc attcact 27

<210> 48
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<400> 48
Arg Gln Tyr Lys Thr Tyr Pro Phe Thr
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<210> 49
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<400> 49
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ccagggaagg gactggagtg ggtctcatat attagtagta gtggtggtac caaatactac 180
gtagactctg tgaagggccg attcaccatt tccagagaca acgccaagaa gtcactgtat 240
ctgcaaatga acagcctgag agccgatgac acggctcttt attactgtgc gagactcaat 300
ggggttgatg tttttgatat ctggggccaa gggacaatgg tcaccgtctc ttca 354

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

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<211> 24
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<400> 51
ggattcacct tcaatagtta tgaa 24

<210> 52
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<400> 52
Gly Phe Thr Phe Asn Ser Tyr Glu
 1   5

<210> 53
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<400> 53
attagtagta gtggtggtac caaa 24

<210> 54
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<400> 54
Ile Ser Ser Ser Gly Gly Thr Lys
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<210> 55
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<400> 55
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<400> 56
Ala Arg Leu Asn Gly Val Asp Val Phe Asp Ile
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<400> 57
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atcacttgcc gggcgagtca ggacattttc aattatttag cctggtttca gcagaaacca 120
gggaaagttc ctgagctcct gatctctgct gcgtccactt tgcaatcagg ggtcccatct 180
cgtttcagtg gcagtggatc tgggacatat ttcactctca ccatcagcag cctgcagcct 240
gaagatattg ctacttatta ctgtcaaaga tataacagtg ccccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

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

<210> 59
<211> 18
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<400> 59
caggacattt tcaattat   18

<210> 60
<211> 6
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<220>
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<400> 60
Gln Asp Ile Phe Asn Tyr
 1   5

<210> 61
<211> 9
<212> DNA
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<220>
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<400> 61
gctgcgtcc   9

<210> 62
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<400> 62
Ala Ala Ser
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<210> 63
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<400> 63
caaagatata acagtgcccc gctcact 27

<210> 64
<211> 9
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<400> 64
Gln Arg Tyr Asn Ser Ala Pro Leu Thr
 1   5

<210> 65
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<400> 65
gaagtgcagc tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
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ccagggaagg gcctggagtg ggtctcaggt attatttgga atagtggtca cataggctat 180
ggggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa atccctatat 240
ctgcaaatga acagtctgag agctgaggac acggccttgt attattgtgc aagagatagt 300
gggaggtacc agtcctactt tgactactgg ggccagggaa ccctggtcac cgtctcctca 360

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<400> 66
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
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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 Gly Ile Ile Trp Asn Ser Gly His Ile Gly Tyr Gly Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Lys Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr Tyr Cys
                85   90   95
Ala Arg Asp Ser Gly Arg Tyr Gln Ser Tyr Phe Asp Tyr Trp Gly Gln
            100   105   110
Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 67
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<220>
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<400> 67
ggattcacct ttgatgatta tgcc   24

<210> 68
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<400> 68
Gly Phe Thr Phe Asp Asp Tyr Ala
 1   5

<210> 69
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<400> 69
attatttgga atagtggtca cata   24

<210> 70
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<400> 70
Ile Ile Trp Asn Ser Gly His Ile
 1   5

<210> 71
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
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<400> 71
gcaagagata gtgggaggta ccagtcctac tttgactac   39

<210> 72
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<220>
<223> Synthetic

<400> 72
Ala Arg Asp Ser Gly Arg Tyr Gln Ser Tyr Phe Asp Tyr
 1   5   10

<210> 73
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<400> 73
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atcacttgcc gggccagtca cattattagt agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaaggtcct gatctttaag gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacag tataatactt attctcggac gttcggccaa 300
gggaccaagg tggaaatcaa a   321

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

<220>
<223> Synthetic

<400> 74
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly

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 1               5                  10                  15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser His Ile Ile Ser Ser Trp
            20                  25                  30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile
        35                  40                  45
Phe Lys Ala Ser Ser Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Thr Tyr Ser Arg
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100                 105
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<210> 75
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75
cacattatta gtagctgg 18

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

<220>
<223> Synthetic

<400> 76
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His Ile Ile Ser Ser Trp
 1               5
```

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

<220>
<223> Synthetic

<400> 77
aaggcgtct 9

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

<220>
<223> Synthetic

<400> 78
Lys Ala Ser

1

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

<220>
<223> Synthetic

<400> 79
caacagtata atacttattc tcggacg 27

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 81
caggtacagc tgcagcagtc aggtccagga ctggtgaagc cctcgcagac cctctcactc 60
acctgtgcca tctccgggga cagtgtctct agtaatactt ttgcttggaa ctggatcagg 120
cagtccccat cgagaggcct tgagtggctg ggaaggacat actacaggtc caagtggtat 180
attgattatg cagaatctgt gaaaagtcga ataaccatca ccccagacac atccaagaac 240
cagttctccc tgcagttgaa ctctgtgact cccgaggaca cggctctgta ttactgtgca 300
ggtggataca cctatgcccc ccggggtgct tttgatatct ggggccaagg gacaatggtc 360
accgtctctt ca 372

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

<220>
<223> Synthetic

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

```
    50                  55                  60
Glu Ser Val Lys Ser Arg Ile Thr Ile Thr Pro Asp Thr Ser Lys Asn
65                  70                  75                  80
Gln Phe Ser Leu Gln Leu Asn Ser Val Thr Pro Glu Asp Thr Ala Leu
                85                  90                  95
Tyr Tyr Cys Ala Gly Gly Tyr Thr Tyr Ala Pro Arg Gly Ala Phe Asp
            100                 105                 110
Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
        115                 120
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<210> 83
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 83
ggggacagtg tctctagtaa tacttttgct 30

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

<220>
<223> Synthetic

<400> 84
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Gly Asp Ser Val Ser Ser Asn Thr Phe Ala
 1               5                  10
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<210> 85
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 85
acatactaca ggtccaagtg gtatatt 27

<210> 86
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 86
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Thr Tyr Tyr Arg Ser Lys Trp Tyr Ile
 1               5
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<210> 87

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

<220>
<223> Synthetic

<400> 87
gcaggtggat acacctatgc cccccggggt gcttttgata tc 42

<210> 88
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 89
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattagt agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctataag gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacag tatgttagtt atttcacttt tggccagggg 300
accaagctgg agatcaaa 318

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

<220>
<223> Synthetic

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

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

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

<220>
<223> Synthetic

<400> 91
cagagtatta gtagctgg 18

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

<220>
<223> Synthetic

<400> 92
Gln Ser Ile Ser Ser Trp
1 5

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

<220>
<223> Synthetic

<400> 93
aaggcgtct 9

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

<220>
<223> Synthetic

<400> 94
Lys Ala Ser
1

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

<220>
<223> Synthetic

<400> 95
caacagtatg ttagttattt cact 24

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

<220>
<223> Synthetic

<400> 96
Gln Gln Tyr Val Ser Tyr Phe Thr
1 5

<210> 97
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97
gaggtgcagc tggtggagtc tgggggaggc ttggtgcagc ctggagggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt agttatgaaa tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg gatttcatac attagtagtc gtggtggtac catatactac 180
gcagactcta taaagggccg attcaccatc tacagagaca acgccaggaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaggac acggctattt attactgtgc gagactgagt 300
ggggttgata tttttgatat ctggggccaa gggacaatgg tcaccgtctc ttca 354

<210> 98
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 98
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Glu Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
Ser Tyr Ile Ser Ser Arg Gly Gly Thr Ile Tyr Tyr Ala Asp Ser Ile
50 55 60
Lys Gly Arg Phe Thr Ile Tyr Arg Asp Asn Ala Arg Asn Ser Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
85 90 95
Ala Arg Leu Ser Gly Val Asp Ile Phe Asp Ile Trp Gly Gln Gly Thr
100 105 110
Met Val Thr Val Ser Ser
115

<210> 99

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

<220>
<223> Synthetic

<400> 99
ggattcacct tcagtagtta tgaa 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 101
attagtagtc gtggtggtac cata 24

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

<220>
<223> Synthetic

<400> 102
Ile Ser Ser Arg Gly Gly Thr Ile
1 5

<210> 103
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103
gcgagactga gtggggttga tatttttgat atc 33

<210> 104
<211> 11

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 105
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 105
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcgagtca gggcattagc aattatttag cctggtatca gcagaaacca 120
gggaaagttc ctaaactcct gatctatttt gcatccactt tgcaatcagg ggtcccttct 180
cgcttcagtg gcggtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagatgttg caacttatta ctgtcaaagg tataacagtg ccccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a   321

<210> 106
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 106
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Tyr
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
        35   40   45
Tyr Phe Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Arg Tyr Asn Ser Ala Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 107
cagggcatta gcaattat 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 109
tttgcatcc 9

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

<220>
<223> Synthetic

<400> 110
Phe Ala Ser
1

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

<220>
<223> Synthetic

<400> 111
caaaggtata acagtgcccc gctcact 27

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

<220>
<223> Synthetic

<400> 112

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Gln Arg Tyr Asn Ser Ala Pro Leu Thr
 1               5


<210> 113
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgcca tgacctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attactggta gtgttggtaa cacatactac 180
gcagactctg tgaagggtcg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctggg agccgaggat acggccgaat attactgtgc gaaaggggcg 300
ggaatgacta cgaactggta cctcgatctc tggggccgtg gcaccctggt caccgtctcc 360
tca                                                               363

<210> 114
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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


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

<220>
<223> Synthetic

<400> 115
ggattcacct ttagcagcta tgcc                                        24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 117
attactggta gtgttggtaa caca   24

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

<220>
<223> Synthetic

<400> 118
Ile Thr Gly Ser Val Gly Asn Thr
 1   5

<210> 119
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 119
gcgaaagggg cgggaatgac tacgaactgg tacctcgatc tc   42

<210> 120
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120
Ala Lys Gly Ala Gly Met Thr Thr Asn Trp Tyr Leu Asp Leu
 1   5   10

<210> 121
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 121
gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcgc gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacagctcca acaatcagaa ctacttaact 120
tggtaccagc agaaaccagg acagcctcct aaacttctca ttaagtgggc atctacccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtttattatt gtcagcaata tgctagtagt 300
ccgtatactt ttggccaggg gaccaagctg gagatcaaa 339

<210> 122
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 122
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1   5   10   15
Ala Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser
            20   25   30
Ser Asn Asn Gln Asn Tyr Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln
        35   40   45
Pro Pro Lys Leu Leu Ile Lys 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 Ala Ser Ser Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
            100   105   110
Lys

<210> 123
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 123
cagagtgttt tatacagctc caacaatcag aactac 36

<210> 124
<211> 12
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 124
Gln Ser Val Leu Tyr Ser Ser Asn Asn Gln Asn Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 125
tgggcatct   9

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

<220>
<223> Synthetic

<400> 126
Trp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 127
cagcaatatg ctagtagtcc gtatact   27

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

<220>
<223> Synthetic

<400> 128
Gln Gln Tyr Ala Ser Ser Pro Tyr Thr
 1   5

<210> 129
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 129
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacccttgat gatcatgccg tgcactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaggt attagttgga atagtgttta catagactat 180
gcggactctg tgaagggccg attcaccatt ttcagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agctgaggac acggccttct attactgtgc aagagatatt 300
gagggagctc gggactactg gggccaggga accctggtca ccgtctcctc a 351

<210> 130
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 131
ggattcaccc ttgatgatca tgcc 24

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

<220>
<223> Synthetic

<400> 132
Gly Phe Thr Leu Asp Asp His Ala
 1   5

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

<220>
<223> Synthetic

<400> 133
attagttgga atagtgttta cata 24

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

<220>
<223> Synthetic

<400> 134
Ile Ser Trp Asn Ser Val Tyr Ile
1 5

<210> 135
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 135
gcaagagata ttgagggagc tcgggactac 30

<210> 136
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 136
Ala Arg Asp Ile Glu Gly Ala Arg Asp Tyr
1 5 10

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

<220>
<223> Synthetic

<400> 137
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60

atcacttgcc gggctagtca gggcattaga aatgatttag gctggtatca gcaaaaacca 120
gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggata tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caccttatta ctgtctacag cataatagtt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

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

<220>
<223> Synthetic

<400> 138
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys 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 Arg 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 Tyr Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Pro Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 139
cagggcatta gaaatgat 18

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

<220>
<223> Synthetic

<400> 140
Gln Gly Ile Arg Asn Asp
 1   5

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

<220>
<223> Synthetic

<400> 141
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 142
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 143
ctacagcata atagttaccc gctcact 27

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

<220>
<223> Synthetic

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

<210> 145
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cagttttagc atctatgcca tgagctggtt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attaatggtc gtggtgatgg cacacactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagac cacgctgtat 240
ctgcaaatga gcagcctgag agccgaggac acggccgtat attactgtgc gaaacccgtc 300
atgagtacaa atggttttga tatctggggc caagggacaa tggtcaccgt ctcttca 357

<210> 146

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 147
ggattcagtt ttagcatcta tgcc   24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 149
attaatggtc gtggtgatgg caca   24

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

<220>
<223> Synthetic

<400> 150
Ile Asn Gly Arg Gly Asp Gly Thr
 1   5

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

<220>
<223> Synthetic

<400> 151
gcgaaacccg tcatgagtac aaatggtttt gatatc   36

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

<220>
<223> Synthetic

<400> 152
Ala Lys Pro Val Met Ser Thr Asn Gly Phe Asp Ile
 1   5   10

<210> 153
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 153
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattagt agctggttgg cctggtatca actgaaacca 120
gggaaagccc ctaagctcct aatctataag gcgtctaatt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagag ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacag tataatattt attggacgtt cggccaaggg 300
accaaggtgg aaatcaaa   318

<210> 154
<211> 106
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 155
cagagtatta gtagctgg   18

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

<220>
<223> Synthetic

<400> 156
Gln Ser Ile Ser Ser Trp
 1   5

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

<220>
<223> Synthetic

<400> 157
aaggcgtct   9

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

<220>

<223> Synthetic

<400> 158
Lys Ala Ser
 1

<210> 159
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 159
caacagtata atatttattg gacg 24

<210> 160
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 160
Gln Gln Tyr Asn Ile Tyr Trp Thr
 1   5

<210> 161
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 161
caggttcagc tggtgcagtc tggagctgag gtaaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctggtta cacctttggc acctctggta tcacctgggt gcgacaggcc 120
cctggacaag ggcttgagtg gatgggatgg agcagcgctt acaatggtaa aacagactat 180
gcacaaaagt tccaggacag agtcaccatg accacagaca catccacgac cacaggctac 240
atggagatga ggagccttac atctgacgac acggccgtct attactgtac tactgtagta 300
cgtcgtccct ttgacttctg gggccaggga accctggtca ccgtctcctc a 351

<210> 162
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 162
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 Gly Thr Ser
            20   25   30

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Gly Ile Thr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
        35                  40                  45
Gly Trp Ser Ser Ala Tyr Asn Gly Lys Thr Asp Tyr Ala Gln Lys Phe
    50                  55                  60
Gln Asp Arg Val Thr Met Thr Thr Asp Thr Ser Thr Thr Thr Gly Tyr
65                  70                  75                  80
Met Glu Met Arg Ser Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Thr Thr Val Val Arg Arg Pro Phe Asp Phe Trp Gly Gln Gly Thr Leu
            100                 105                 110
Val Thr Val Ser Ser
        115
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<210> 163
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 163
ggttacacct ttggcacctc tggt 24

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

<220>
<223> Synthetic

<400> 164
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Gly Tyr Thr Phe Gly Thr Ser Gly
 1               5
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<210> 165
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 165
agcagcgctt acaatggtaa aaca 24

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

<220>
<223> Synthetic

<400> 166
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Ser Ser Ala Tyr Asn Gly Lys Thr
 1               5
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<210> 167
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 167
actactgtag tacgtcgtcc ctttgacttc 30

<210> 168
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 168
Thr Thr Val Val Arg Arg Pro Phe Asp Phe
 1   5   10

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

<220>
<223> Synthetic

<400> 169
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtgggaga cagagtcacc 60
atcacttgtc gggcgagtca ggacattaat aatttttag cctggtttca gcagaaacca 120
gggaaagccc ctaagtccct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aagttcagcg gcggtggatc tgggacagat ttcgctctca ccatcagcag cctgcagcct 240
gaggattttg caacttatta ctgccaacag tatagttctt accctatcac cttcggccaa 300
gggacacgac tggagattaa a 321

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

<220>
<223> Synthetic

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

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

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

<220>
<223> Synthetic

<400> 171
caggacatta ataatttt 18

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

<220>
<223> Synthetic

<400> 172
Gln Asp Ile Asn Asn Phe
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
caacagtata gttcttaccc tatcacc 27

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

<220>
<223> Synthetic

<400> 176
Gln Gln Tyr Ser Ser Tyr Pro Ile Thr
1 5

<210> 177
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 177
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc cgggggggtc cctcagactc 60
tcctgtatag tctctggatt cacctttagt ggctcttgga tgagttgggt ccgccagctt 120
ccaggaaagg ggctggagtg ggtggccaat attaaagaag atggaagtga ttcatactat 180
gtggactctg tggagggccg attcaccatc tccagagaca acgccaagag ttcactttat 240
ctgcaaatga acagtctgag agtcgacgac acggctgtat atttctgtgc gagagcgagg 300
acagtccctc tccactactg gggccagggc accctggtca ccgtctcctc a 351

<210> 178
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 179
ggattcacct ttagtggctc ttgg 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 181
attaaagaag atggaagtga ttca 24

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

<220>
<223> Synthetic

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

<210> 183
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 183
gcgagagcga ggacagtccc tctccactac 30

<210> 184
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 184
Ala Arg Ala Arg Thr Val Pro Leu His Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 185
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattaat atttggttgg cctggtatca acagaaacca 120
gggaaagccc ctaaactcct gatctatagg gcgtcttatt tagaaagtgg ggtcccatca 180
agtttcgccg gcggtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgactttg gaacttatta ttgtcaacac tataatagtt atccattcac ttttggccag 300
gggaccaagc tggagatcaa a   321

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 187
cagagtatta atatttgg 18

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

<220>
<223> Synthetic

<400> 188
Gln Ser Ile Asn Ile Trp
1 5

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

<220>
<223> Synthetic

<400> 189
agggcgtct 9

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

<220>
<223> Synthetic

<400> 190
Arg Ala Ser
1

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

<220>
<223> Synthetic

<400> 191
caacactata atagttatcc attcact 27

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

<220>

<223> Synthetic

<400> 192
Gln His Tyr Asn Ser Tyr Pro Phe Thr
 1   5

<210> 193
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 193
gaagtgcagc tggtggagtc tgggggaggc ttggtgcagc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat ggttatgcca tgcactgggt ccggcaaggt 120
ccagggaagg gcctggagtg ggtctcaggt attagttggt atagtgatac cttaggctat 180
gcggactctg tgaagggccg attcaccatc tccagagaca acgccaaaaa ctccctgtat 240
ctgcaaatga acagtctgag aactgaggac acggccttct attactgtgc aaaaatctct 300
agcagcggct gggcctttga ctactggggc cagggaaccc tggtcaccgt ctcctca   357

<210> 194
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 195
ggattcacct ttgatggtta tgcc   24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 197
attagttggt atagtgatac ctta   24

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

<220>
<223> Synthetic

<400> 198
Ile Ser Trp Tyr Ser Asp Thr Leu
 1   5

<210> 199
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 199
gcaaaaatct ctagcagcgg ctgggccttt gactac   36

<210> 200
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 200
Ala Lys Ile Ser Ser Ser Gly Trp Ala Phe Asp Tyr
 1   5   10

<210> 201
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 201
gaaattgtgt tgacgcagtc tccaggtacc ctgtctttgt ctccagggga gagagccacc 60
ctctcttgca gggccagtca cagtgttagc agcgcctact tagcctggta ccagcagaaa 120
cctggccaga ctcccaggct cctcatctat ggtacatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgta ttactgtcag cagtatggta gttcacctct attcactttc 300
ggccctggga ccaaagtgga tatcaaa 327

<210> 202
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 202
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 His Ser Val Ser Ser Ala
            20   25   30
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Thr 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 Gly Ser Ser Pro
                85   90   95
Leu Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

<210> 203
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 203
cacagtgtta gcagcgccta c 21

<210> 204
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 204
His Ser Val Ser Ser Ala Tyr
 1   5

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

<220>
<223> Synthetic

<400> 205
ggtacatcc   9

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

<220>
<223> Synthetic

<400> 206
Gly Thr Ser
 1

<210> 207
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 207
cagcagtatg gtagttcacc tctattcact   30

<210> 208
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 208
Gln Gln Tyr Gly Ser Ser Pro Leu Phe Thr
 1   5   10

<210> 209
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 209
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acctgtgtca tctccgggga cagtgtctct agtaacactg cttggaactg ggtcaggcag 120
tccccatcga gaggccttga gtggctggga aggacatact acaggtccaa gtggtataat 180
gattatgcag tatctgtgaa aagtcgaata accatcaacc cagacacatc caagaaccag 240
ttctccctgc tgatgaactc tgtgactccc gaagacacgg ctgtatatta ttgcgcaaga 300
gtggttcggg gacttaacta ctttgactac tggggccagg gaaccctggt cactgtctcc 360
tca 363

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

<220>
<223> Synthetic

<400> 210
Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15
Thr Leu Ser Leu Thr Cys Val Ile Ser Gly Asp Ser Val Ser Ser Asn
            20   25   30
Thr Ala Trp Asn Trp Val Arg Gln Ser Pro Ser Arg Gly Leu Glu Trp
        35   40   45
Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr Asn Asp Tyr Ala Val
    50   55   60
Ser Val Lys Ser Arg Ile Thr Ile Asn Pro Asp Thr Ser Lys Asn Gln
65   70   75   80
Phe Ser Leu Leu Met Asn Ser Val Thr Pro Glu Asp Thr Ala Val Tyr
                85   90   95
Tyr Cys Ala Arg Val Val Arg Gly Leu Asn Tyr Phe Asp Tyr Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 211
ggggacagtg tctctagtaa cactgct 27

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

<220>
<223> Synthetic

<400> 212
Gly Asp Ser Val Ser Ser Asn Thr Ala

1 5

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

<220>
<223> Synthetic

<400> 213
acatactaca ggtccaagtg gtataat 27

<210> 214
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 214
Thr Tyr Tyr Arg Ser Lys Trp Tyr Asn
1 5

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

<220>
<223> Synthetic

<400> 215
gcaagagtgg ttcggggact taactacttt gactac 36

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

<220>
<223> Synthetic

<400> 216
Ala Arg Val Val Arg Gly Leu Asn Tyr Phe Asp Tyr
1 5 10

<210> 217
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 217

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gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacaactcca acaataagaa ctacttagct 120
tggtaccagc agaaaccagg acagcctcct aaactactca tttactggtc atcttcccgg 180
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcggcc tgcaggctga agatgtggca atttattact gtcagcaata ttctacaatt 300
ccttacactt ttggccaggg gaccaagctg gagatcaaa                        339

<210> 218
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 218
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 Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45
Pro Pro Lys Leu Leu Ile Tyr Trp Ser Ser Ser 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 Gly Leu Gln Ala Glu Asp Val Ala Ile Tyr Tyr Cys Gln Gln
                85                  90                  95
Tyr Ser Thr Ile Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
            100                 105                 110
Lys



<210> 219
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 219
cagagtgttt tatacaactc caacaataag aactac                          36

<210> 220
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 220
Gln Ser Val Leu Tyr Asn Ser Asn Asn Lys Asn Tyr
 1               5                  10


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

<220>
<223> Synthetic

<400> 221
tggtcatct 9

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

<220>
<223> Synthetic

<400> 222
Trp Ser Ser
1

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

<220>
<223> Synthetic

<400> 223
cagcaatatt ctacaattcc ttacact 27

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

<220>
<223> Synthetic

<400> 224
Gln Gln Tyr Ser Thr Ile Pro Tyr Thr
1 5

<210> 225
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 225
gaggtgcagc tggtggagtc tgggggaggt gtggtacggc cgggggggtc cctgagactc 60
tcctgtgcag cctctggatt caagtttgat gattatggca tgacctgggt ccgccacgtt 120
ccagggaagg ggctggagtg ggtctctggt attaattgga atggtggtag aacaggttat 180
acagactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag agccgaggac acggccttgt atcactgtgc gggagctcgc 300

cgtgatgctt ttgatatctg gggccaaggg acaatggtca ccgtctcttc a 351

<210> 226
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 227
ggattcaagt ttgatgatta tggc 24

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

<220>
<223> Synthetic

<400> 228
Gly Phe Lys Phe Asp Asp Tyr Gly
 1   5

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

<220>
<223> Synthetic

<400> 229
attaattgga atggtggtag aaca 24

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

<220>
<223> Synthetic

<400> 230
Ile Asn Trp Asn Gly Gly Arg Thr
1 5

<210> 231
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 231
gcgggagctc gccgtgatgc ttttgatatc 30

<210> 232
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 232
Ala Gly Ala Arg Arg Asp Ala Phe Asp Ile
1 5 10

<210> 233
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 233
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctataggaga cagagtcacc 60
atcacttgcc gggcaagtca gaacattatc aaatatttaa attggtatca gcagaatgca 120
gggaaagccc ctaagctcct gatctatact gcatccagct tgcaaagtgg agtcccatca 180
cggttcagtg gcagcggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag agttccagtt ccccatacac ttttggccag 300
gggaccaagc tggagatcaa a 321

<210> 234
<211> 107
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 235
cagaacatta tcaaatat 18

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

<220>
<223> Synthetic

<400> 236
Gln Asn Ile Ile Lys Tyr
 1   5

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

<220>
<223> Synthetic

<400> 237
actgcatcc 9

<210> 238
<211> 3
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 238
Thr Ala Ser
 1

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

<220>
<223> Synthetic

<400> 239
caacagagtt ccagttcccc atacact 27

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 241
caggtcacct tgaaggagtc tggtcctgtg ctggtgaaac ccacacagac cctctcgctg 60
acctgcaccg tctcggggtt ctcactcagt gatgctggta tgggtgtgag ctggatccgt 120
cagcccccag ggaaggccct ggagtggctt gcacacattt tttcgaatga cgggaaatcc 180
tacagcacat ctctgaagag cagactcacc atctccaagg acacctccaa aaggcaggtg 240
gtccttacca tgaccaacat ggaccctgtg gacacagcca catattactg tgcacggata 300
cggactggaa cttattcctt ataccttgac tactggggcc agggaaccct ggtcactgtc 360
tcctca 366

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

<220>
<223> Synthetic

<400> 242

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

<210> 243
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 243
gggttctcac tcagtgatgc tggtatgggt 30

<210> 244
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 244
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Gly Phe Ser Leu Ser Asp Ala Gly Met Gly
 1               5                  10
```

<210> 245
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 245
atttttcga atgacgggaa a 21

<210> 246
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 247
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 247
gcacggatac ggactggaac ttattcctta taccttgact ac   42

<210> 248
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 248
Ala Arg Ile Arg Thr Gly Thr Tyr Ser Leu Tyr Leu Asp Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 249
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattaac agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gctctatttt gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg caagttacta ctgtcaagag agttatagta ccccgtggac gttcggccaa 300
gggaccaagg tggaaatcaa a   321

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

<220>
<223> Synthetic

<400> 250
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Asn Ser Tyr
            20   25   30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Leu

```
        35                  40                  45
Tyr Phe 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 Ser Tyr Tyr Cys Gln Glu Ser Tyr Ser Thr Pro Trp
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100                 105
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<210> 251
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 251
cagagcatta acagctat 18

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

<220>
<223> Synthetic

<400> 252
```
Gln Ser Ile Asn Ser Tyr
 1               5
```

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

<220>
<223> Synthetic

<400> 253
tttgcatcc 9

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

<220>
<223> Synthetic

<400> 254
```
Phe Ala Ser
 1
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<210> 255

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

<220>
<223> Synthetic

<400> 255
caagagagtt atagtacccc gtggacg 27

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

<220>
<223> Synthetic

<400> 256
Gln Glu Ser Tyr Ser Thr Pro Trp Thr
1 5

<210> 257
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 257
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt gactataaca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcggtt atatggtatg atggatctaa taaacactat 180
gcagactccg tgaagggccg attcacaatc tccagagaca attccaagaa cacgctctat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagatgga 300
tttacgattt ttggaatggt tcttgactac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 258
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

```
                85                  90                  95
Ala Arg Asp Gly Phe Thr Ile Phe Gly Met Val Leu Asp Tyr Trp Gly
            100                 105                 110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
```

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

<220>
<223> Synthetic

<400> 259
ggattcacct tcagtgacta taac 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 261
atatggtatg atggatctaa taaa 24

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

<220>
<223> Synthetic

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

<210> 263
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 263
gcgagagatg gatttacgat ttttggaatg gttcttgact ac 42

<210> 264
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 264
Ala Arg Asp Gly Phe Thr Ile Phe Gly Met Val Leu Asp Tyr
1 5 10

<210> 265
<211> 327
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 265
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttatc agcagctact tagcctggta ccagcagaag 120
cctggtcagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagact ttgcagtgtt ttactgtcag cagtatggta gttcacctcc cttcactttc 300
ggccctggga ccaaagtgga tatcaaa 327

<210> 266
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 266
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 Ile Ser Ser
20 25 30
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35 40 45
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50 55 60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65 70 75 80
Pro Glu Asp Phe Ala Val Phe Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
85 90 95
Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

<210> 267
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 267
cagagtgtta tcagcagcta c 21

<210> 268
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 268
Gln Ser Val Ile Ser Ser Tyr
1 5

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

<220>
<223> Synthetic

<400> 269
ggtgcatcc 9

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

<220>
<223> Synthetic

<400> 270
Gly Ala Ser
1

<210> 271
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 271
cagcagtatg gtagttcacc tcccttcact 30

<210> 272

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

<220>
<223> Synthetic

<400> 272
Gln Gln Tyr Gly Ser Ser Pro Pro Phe Thr
 1   5   10

<210> 273
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 273
gaagtgcagc tgttggagtc tgggggaggc ttggttcagc cgggggggac cctaagacta 60
tcctgtgcag cctctggatt cacctttagc gcctatgcca tgagttgggt ccgccaggct 120
ccagggaagg gactggagtg ggtctcttct attaatgttc gtgctggtga cacatactac 180
gcagactccg tgaagggccg cttcaccatc tccagagaca attccaagaa tacgctgttt 240
ctgctgatga acagcctgag agccgaagac acggccgcat attactgtgc gaaagccagg 300
tatagcagca attggggctt tgacttctgg ggccagggaa ccctggtcac cgtctcctca 360

<210> 274
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 275
ggattcacct ttagcgccta tgcc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 277
attaatgttc gtgctggtga caca 24

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

<220>
<223> Synthetic

<400> 278
Ile Asn Val Arg Ala Gly Asp Thr
1 5

<210> 279
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 279
gcgaaagcca ggtatagcag caattggggc tttgacttc 39

<210> 280
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 280
Ala Lys Ala Arg Tyr Ser Ser Asn Trp Gly Phe Asp Phe
 1   5   10

<210> 281
<211> 339
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 281
gacatcgtga tgacccagtc tccagactcc ctgactgtgt ctctgggcgc gaggaccacc 60
atcaactgcc agtccagcca gactatttta cacagctcca acaatcacaa ctacttagct 120
tggtatcagc agaaaccggg actgcctcct aaactactca tttactggtc atctacccgg 180
gaatccggag tccctgaccg attcagcggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca atttattact gtcaacaata ttctaatact 300
ccgtacactt ttggccaggg gaccaagctg gagatcaat   339

<210> 282
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 282
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Thr Val Ser Leu Gly
 1   5   10   15
Ala Arg Thr Thr Ile Asn Cys Gln Ser Ser Gln Thr Ile Leu His Ser
            20   25   30
Ser Asn Asn His Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Leu
        35   40   45
Pro Pro Lys Leu Leu Ile Tyr Trp Ser 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 Ser Asn Thr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
            100   105   110
Asn

<210> 283
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 283

cagactattt tacacagctc caacaatcac aactac 36

<210> 284
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 284
Gln Thr Ile Leu His Ser Ser Asn Asn His Asn Tyr
1 5 10

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

<220>
<223> Synthetic

<400> 285
tggtcatct 9

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

<220>
<223> Synthetic

<400> 286
Trp Ser Ser
1

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

<220>
<223> Synthetic

<400> 287
caacaatatt ctaatactcc gtacact 27

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

<220>
<223> Synthetic

<400> 288
Gln Gln Tyr Ser Asn Thr Pro Tyr Thr

1 5

<210> 289
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 289
caggtgcagt tggtggaatc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtggag cctctggatt caccttcaga aattatggca tgcagtgggt ccgccagggt 120
ccaggcaagg ggctggagtg ggtgacactt atatcatttg atggaaatga taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgttc 240
ctgcaaatga acagcctgag aactgaggac acggctgttt attactgtgc gagagggggg 300
gattttgact actggggaca gggaaccctg gtcaccgtct cctca 345

<210> 290
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 291
ggattcacct tcagaaatta tggc 24

<210> 292
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 292
Gly Phe Thr Phe Arg Asn Tyr Gly
 1   5

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

<220>
<223> Synthetic

<400> 293
atatcatttg atggaaatga taaa   24

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

<220>
<223> Synthetic

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

<210> 295
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 295
gcgagagggg gggattttga ctac   24

<210> 296
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 296
Ala Arg Gly Gly Asp Phe Asp Tyr
 1   5

<210> 297
<211> 325

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 297
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgttggaga cagagtcacc 60
atcacttgcc gggcaagtca ggacattaga aaagatttag gctggtatca gcagaaacca 120
gggaaagccc ctaagcgtct gatctatgct gcatccagtt tacatagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa cataatagtt accccatgta cacttttggt 300
caggggacca agctggagat caaaa 325

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 299
caggacatta gaaaagat 18

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

<220>
<223> Synthetic

<400> 300
Gln Asp Ile Arg Lys Asp

1 5

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

<220>
<223> Synthetic

<400> 301
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 302
Ala Ala Ser
1

<210> 303
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 303
ctacaacata atagttaccc catgtacact 30

<210> 304
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 304
Leu Gln His Asn Ser Tyr Pro Met Tyr Thr
1 5 10

<210> 305
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 305

gaagtgcagc tggtggagtc tgggggaggc ttggtacagc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat gattatgcca tgcactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaggt atctcttggc atagtggcat cataggctat 180
gcggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat 240
ctgcaaatga acagtctgag aactgaggac gcggccttgt attattgtgc aaaaattggg 300
agctactttt actttgactc ctggggccag ggaaccctgg tcaccgtctc ctca 354

<210> 306
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 306
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
1 5 10 15
Ser Leu Arg Leu Ser Cys 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 Gly Ile Ser Trp His Ser Gly Ile 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 Thr Glu Asp Ala Ala Leu Tyr Tyr Cys
85 90 95
Ala Lys Ile Gly Ser Tyr Phe Tyr Phe Asp Ser Trp Gly Gln Gly Thr
100 105 110
Leu Val Thr Val Ser Ser
115

<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
atctcttggc atagtggcat cata 24

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

<220>
<223> Synthetic

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

<210> 311
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 311
gcaaaaattg ggagctactt ttactttgac tcc 33

<210> 312
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 312
Ala Lys Ile Gly Ser Tyr Phe Tyr Phe Asp Ser
 1 5 10

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

<220>
<223> Synthetic

<400> 313
gaaattgtgt tgacgcagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcaactact tagcctggta ccagcagaaa 120
cctggccagg ctcccaggct cctcatctat ggtgcgtcca gcagggccac tggcatccca 180
gacaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagttta ttactgtcag cagtttggta gctcagggta cacttttggc 300

caggggacca acctggagat caaa 324

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

<220>
<223> Synthetic

<400> 314
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 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 Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
    50   55   60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65   70   75   80
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Phe Gly Ser Ser Gly
                85   90   95
Tyr Thr Phe Gly Gln Gly Thr Asn Leu Glu Ile Lys
            100   105

<210> 315
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 315
cagagtgtta gcagcaacta c 21

<210> 316
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 316
Gln Ser Val Ser Ser Asn Tyr
 1   5

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

<220>
<223> Synthetic

<400> 317

ggtgcgtcc 9

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

<220>
<223> Synthetic

<400> 318
Gly Ala Ser
1

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

<220>
<223> Synthetic

<400> 319
cagcagtttg gtagctcagg gtacact 27

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

<220>
<223> Synthetic

<400> 320
Gln Gln Phe Gly Ser Ser Gly Tyr Thr
1 5

<210> 321
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 321
gaggtgcagc tggtggagtc tgggggaggc ctggtcaagc cgggggggtc cctgagactc 60
tcctgtgcag cctctggaat taccttcagt agttatagca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcatcc attagtacta ggagtagtct cattcactac 180
gcagactcag tgaagggccg attcaccatc tccagagaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agacgaggac acggctgtgt attactgtgc gcgttgggat 300
gcggcagccg cctttgacta ctggggccag ggaaccctgg tcatcgtctc ctca 354

<210> 322
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 323
ggaattacct tcagtagtta tagc   24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 325
attagtacta ggagtagtct catt   24

<210> 326
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 326
Ile Ser Thr Arg Ser Ser Leu Ile
 1   5

<210> 327
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 327
gcgcgttggg atgcggcagc cgcctttgac tac   33

<210> 328
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 328
Ala Arg Trp Asp Ala Ala Ala Ala Phe Asp Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 329
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca gggcattagc agttatttag cctggtatca gcaaaaacca 120
gggaaagccc ctaagctcct gatctatgtt gcatccactt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttattt ctgtcaacag cttaatagtt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a   321

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

<220>
<223> Synthetic

<400> 330
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 Val 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 Phe Cys Gln Gln Leu Asn Ser Tyr Pro Leu
                85                  90                  95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105
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<210> 331
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 331
cagggcatta gcagttat 18

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

<220>
<223> Synthetic

<400> 332
```
Gln Gly Ile Ser Ser Tyr
 1               5
```

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

<220>
<223> Synthetic

<400> 333
gttgcatcc 9

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

<220>
<223> Synthetic

<400> 334
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Val Ala Ser
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1

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

<220>
<223> Synthetic

<400> 335
caacagctta atagttaccc gctcact 27

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

<220>
<223> Synthetic

<400> 336
Gln Gln Leu Asn Ser Tyr Pro Leu Thr
1 5

<210> 337
<211> 342
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 337
caggtccagt tggtacagtc tggggctgag gtgcagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg tttccggata caccctcact gcattatcca tacactgggt gcgacaagct 120
cctggaaaag ggcttgagtg gatgggaaat tttgatcctg gagatggtga aacaatccac 180
gcacagaagt tccagggcag agtcaccatg accggggaca catctacaga cacagcctac 240
atggaactga gcagcctgag atctgaggac acggccgtgt attattgtgt aggggttact 300
tttgactact ggggccaggg aaccctggtc accgtctcct ca 342

<210> 338
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 338
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Gln Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Ala Leu
20 25 30
Ser Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45
Gly Asn Phe Asp Pro Gly Asp Gly Glu Thr Ile His Ala Gln Lys Phe
50 55 60

```
Gln Gly Arg Val Thr Met Thr Gly Asp Thr Ser Thr Asp Thr Ala Tyr
65                  70                  75                  80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Val Gly Val Thr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
            100                 105                 110
Ser Ser
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<210> 339
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 339
ggatacaccc tcactgcatt atcc 24

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

<220>
<223> Synthetic

<400> 340
```
Gly Tyr Thr Leu Thr Ala Leu Ser
 1               5
```

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

<220>
<223> Synthetic

<400> 341
tttgatcctg gagatggtga aaca 24

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

<220>
<223> Synthetic

<400> 342
```
Phe Asp Pro Gly Asp Gly Glu Thr
 1               5
```

<210> 343
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 343
gtaggggtta cttttgacta c 21

<210> 344
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 344
Val Gly Val Thr Phe Asp Tyr
1 5

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

<220>
<223> Synthetic

<400> 345
gaaattgtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttgcc agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct cctctatggt gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaggattttg cactttatta ctgtcagcac tataataact ggccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a 321

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

<220>
<223> Synthetic

<400> 346
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 Ala Ser Asn
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Leu
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 Leu Tyr Tyr Cys Gln His Tyr Asn Asn Trp Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

100 105

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

<220>
<223> Synthetic

<400> 347
cagagtgttg ccagcaac 18

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

<220>
<223> Synthetic

<400> 348
Gln Ser Val Ala Ser Asn
1 5

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

<220>
<223> Synthetic

<400> 349
ggtgcatcc 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

cagcactata ataactggcc gctcact 27

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

<220>
<223> Synthetic

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

<210> 353
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 353
gaggtgcagc ttgtagagtc tgggggagac ttggtacatc ctggcaggtc cctgagactc 60
tcctgtgcag cctctggttt ccccctttgat gagtatgcca tgcactgggt ccggcaagtt 120
ccagggaagg gcctggagtg ggtctcaggt attagttgga gtaataataa cataggctat 180
gcggactctg tgaagggccg attcaccatc tccagagaca acgccaaaaa ctccctgtat 240
ctacaaatga acagtctgag acctgaggac acggcctttt attactgtgc aaaatctgga 300
atctttgact cctggggcca gggaaccctg gtcaccgtct cctca 345

<210> 354
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 354
Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val His Pro Gly Arg
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Pro Phe Asp Glu Tyr
20 25 30
Ala Met His Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gly Ile Ser Trp Ser Asn Asn 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 Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Pro Glu Asp Thr Ala Phe Tyr Tyr Cys
85 90 95
Ala Lys Ser Gly Ile Phe Asp Ser Trp Gly Gln Gly Thr Leu Val Thr
100 105 110
Val Ser Ser
115

<210> 355
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 355
ggtttcccct ttgatgagta tgcc 24

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

<220>
<223> Synthetic

<400> 356
Gly Phe Pro Phe Asp Glu Tyr Ala
1 5

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

<220>
<223> Synthetic

<400> 357
attagttgga gtaataataa cata 24

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

<220>
<223> Synthetic

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

<210> 359
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 359
gcaaaatctg gaatctttga ctcc 24

<210> 360
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 360
Ala Lys Ser Gly Ile Phe Asp Ser
 1   5

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

<220>
<223> Synthetic

<400> 361
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agggacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catccatggt gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tggggcagag ttcactctca tcatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tataacaact ggcctctcac tttcggcgga 300
gggaccaagg tggagatcaa a   321

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 363

cagagtgtta gcagggac 18

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

<220>
<223> Synthetic

<400> 364
Gln Ser Val Ser Arg Asp
1 5

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

<220>
<223> Synthetic

<400> 365
ggtgcatcc 9

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

<220>
<223> Synthetic

<400> 366
Gly Ala Ser
1

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

<220>
<223> Synthetic

<400> 367
cagcagtata acaactggcc tctcact 27

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

<220>
<223> Synthetic

<400> 368
Gln Gln Tyr Asn Asn Trp Pro Leu Thr

1 5

<210> 369
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 369
gaggtgcact tggtggagtc tgggggaggc ttggttcagc ctggagggtc cctgagactc 60
tcctgcgcag cctctgggtt caccttcagt agttatgaaa tgaactgggt ccgccagact 120
ccagggaagg ggctggagtg gatttcacac attagtagtc gtagtgttat aatatattat 180
gcagactctg tgaagggccg attcaccatc tccagagaca atgccaagaa ctcactgttt 240
ctgcaaatga acagtctgag agccgaagac acggctgtct atttctgtgc ggggattact 300
atttttggta tccctgaata ctggggccag ggaaccctgg tcaccgtctc ctca 354

<210> 370
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 370
Glu Val His Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Glu Met Asn Trp Val Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45
Ser His Ile Ser Ser Arg Ser Val Ile Ile Tyr 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 Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95
Ala Gly Ile Thr Ile Phe Gly Ile Pro Glu Tyr Trp Gly Gln Gly Thr
100 105 110
Leu Val Thr Val Ser Ser
115

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

<220>
<223> Synthetic

<400> 371
gggttcacct tcagtagtta tgaa 24

<210> 372
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 373
attagtagtc gtagtgttat aata   24

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

<220>
<223> Synthetic

<400> 374
Ile Ser Ser Arg Ser Val Ile Ile
 1   5

<210> 375
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 375
gcggggatta ctatttttgg tatccctgaa tac   33

<210> 376
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 376
Ala Gly Ile Thr Ile Phe Gly Ile Pro Glu Tyr
 1   5   10

<210> 377
<211> 321

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 377
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagt agttactttg cctggtatca acagaaacct 120
ggccaggctc ccaggctcct catctatgat gcgtccagca gggccacagg catcccaacc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcaa cgaagcagct ggcctatcac cttcggccag 300
gggacacgac tggagattaa a 321

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 379
cagagtgtta gtagttac 18

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

<220>
<223> Synthetic

<400> 380
Gln Ser Val Ser Ser Tyr

1 5

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

<220>
<223> Synthetic

<400> 381
gatgcgtcc 9

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

<220>
<223> Synthetic

<400> 382
Asp Ala Ser
1

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

<220>
<223> Synthetic

<400> 383
cagcaacgaa gcagctggcc tatcacc 27

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

<220>
<223> Synthetic

<400> 384
Gln Gln Arg Ser Ser Trp Pro Ile Thr
1 5

<210> 385
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 385

gaggtgcagc tgttggagtc tgggggaggc ttcgtacagc cgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagt tcctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcaatt attagttcta atggtcgtta cacatactat 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctccaaatga acagcctgag agccgaagac acggccgtct attactgtgc cactgtaact 300
ggggactggt tcgacccctg gggccaggga accctggtca ccgtctcctc a 351

<210> 386
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 386
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Phe Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Ile Ile Ser Ser Asn Gly Arg Tyr Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Thr Val Thr Gly Asp Trp Phe Asp Pro Trp Gly Gln Gly Thr Leu
100 105 110
Val Thr Val Ser Ser
115

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

<220>
<223> Synthetic

<400> 387
ggattcacct ttagttccta tgcc 24

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

<220>
<223> Synthetic

<400> 388
Gly Phe Thr Phe Ser Ser Tyr Ala
1 5

<210> 389
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 389
attagttcta atggtcgtta caca 24

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

<220>
<223> Synthetic

<400> 390
Ile Ser Ser Asn Gly Arg Tyr Thr
1 5

<210> 391
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 391
gccactgtaa ctggggactg gttcgacccc 30

<210> 392
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 392
Ala Thr Val Thr Gly Asp Trp Phe Asp Pro
1 5 10

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

<220>
<223> Synthetic

<400> 393
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgtt gggccagtca ggacattgac atttctttag cctggtatca gcaaaaacca 120
gggaaagccc ctaagctctt gatctatgct gcatccactt tgcaaagtgg ggtcccttca 180
aagttcagcg gcagtggatc tgggacagat ttcactctca caatcagcag cctgcagcct 240
gaagattttt caacttatta ctgtcaacaa cttaatagtt acccgatcac cttcggccaa 300

gggacacgac tggacattaa a 321

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

<220>
<223> Synthetic

<400> 394
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 Asp Ile Ser
            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 Lys Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ser Thr Tyr Tyr Cys Gln Gln Leu Asn Ser Tyr Pro Ile
                85   90   95
Thr Phe Gly Gln Gly Thr Arg Leu Asp Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 395
caggacattg acatttct 18

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

<220>
<223> Synthetic

<400> 396
Gln Asp Ile Asp Ile Ser
 1   5

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

<220>
<223> Synthetic

<400> 397

gctgcatcc 9

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

<220>
<223> Synthetic

<400> 398
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 399
caacaactta atagttaccc gatcacc 27

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

<220>
<223> Synthetic

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

<210> 401
<211> 267
<212> PRT
<213> Artificial Sequence

<220>
<223> human PRLR ecto-mmH

<400> 401
Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Pro Leu Ala Leu
1 5 10 15
Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Asp Ala Gln Leu Pro
20 25 30
Pro Gly Lys Pro Glu Ile Phe Lys Cys Arg Ser Pro Asn Lys Glu Thr
35 40 45
Phe Thr Cys Trp Trp Arg Pro Gly Thr Asp Gly Gly Leu Pro Thr Asn
50 55 60
Tyr Ser Leu Thr Tyr His Arg Glu Gly Glu Thr Leu Met His Glu Cys
65 70 75 80
Pro Asp Tyr Ile Thr Gly Gly Pro Asn Ser Cys His Phe Gly Lys Gln
85 90 95

```
Tyr Thr Ser Met Trp Arg Thr Tyr Ile Met Met Val Asn Ala Thr Asn
            100                 105                 110
Gln Met Gly Ser Ser Phe Ser Asp Glu Leu Tyr Val Asp Val Thr Tyr
        115                 120                 125
Ile Val Gln Pro Asp Pro Pro Leu Glu Leu Ala Val Glu Val Lys Gln
    130                 135                 140
Pro Glu Asp Arg Lys Pro Tyr Leu Trp Ile Lys Trp Ser Pro Pro Thr
145                 150                 155                 160
Leu Ile Asp Leu Lys Thr Gly Trp Phe Thr Leu Leu Tyr Glu Ile Arg
                165                 170                 175
Leu Lys Pro Glu Lys Ala Ala Glu Trp Glu Ile His Phe Ala Gly Gln
            180                 185                 190
Gln Thr Glu Phe Lys Ile Leu Ser Leu His Pro Gly Gln Lys Tyr Leu
        195                 200                 205
Val Gln Val Arg Cys Lys Pro Asp His Gly Tyr Trp Ser Ala Trp Ser
    210                 215                 220
Pro Ala Thr Phe Ile Gln Ile Pro Ser Asp Phe Thr Met Asn Asp Glu
225                 230                 235                 240
Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln Lys Leu Ile
                245                 250                 255
Ser Glu Glu Asp Leu His His His His His His
            260                 265


<210> 402
<211> 472
<212> PRT
<213> Artificial Sequence

<220>
<223> human PRLR ecto-mFc

<400> 402
Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Pro Leu Ala Leu
 1               5                  10                  15
Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Asp Ala Gln Leu Pro
            20                  25                  30
Pro Gly Lys Pro Glu Ile Phe Lys Cys Arg Ser Pro Asn Lys Glu Thr
        35                  40                  45
Phe Thr Cys Trp Trp Arg Pro Gly Thr Asp Gly Gly Leu Pro Thr Asn
    50                  55                  60
Tyr Ser Leu Thr Tyr His Arg Glu Gly Glu Thr Leu Met His Glu Cys
65                  70                  75                  80
Pro Asp Tyr Ile Thr Gly Gly Pro Asn Ser Cys His Phe Gly Lys Gln
                85                  90                  95
Tyr Thr Ser Met Trp Arg Thr Tyr Ile Met Met Val Asn Ala Thr Asn
            100                 105                 110
Gln Met Gly Ser Ser Phe Ser Asp Glu Leu Tyr Val Asp Val Thr Tyr
        115                 120                 125
Ile Val Gln Pro Asp Pro Pro Leu Glu Leu Ala Val Glu Val Lys Gln
    130                 135                 140
Pro Glu Asp Arg Lys Pro Tyr Leu Trp Ile Lys Trp Ser Pro Pro Thr
145                 150                 155                 160
Leu Ile Asp Leu Lys Thr Gly Trp Phe Thr Leu Leu Tyr Glu Ile Arg
                165                 170                 175
Leu Lys Pro Glu Lys Ala Ala Glu Trp Glu Ile His Phe Ala Gly Gln
            180                 185                 190
Gln Thr Glu Phe Lys Ile Leu Ser Leu His Pro Gly Gln Lys Tyr Leu
        195                 200                 205
Val Gln Val Arg Cys Lys Pro Asp His Gly Tyr Trp Ser Ala Trp Ser
```

```
    210                 215                 220
Pro Ala Thr Phe Ile Gln Ile Pro Ser Asp Phe Thr Met Asn Asp Glu
225                 230                 235                 240
Pro Arg Gly Pro Thr Ile Lys Pro Cys Pro Pro Cys Lys Cys Pro Ala
                245                 250                 255
Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Ile
            260                 265                 270
Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile Val Thr Cys Val Val
        275                 280                 285
Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val
    290                 295                 300
Asn Asn Val Glu Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp
305                 310                 315                 320
Tyr Asn Ser Thr Leu Arg Val Val Ser Ala Leu Pro Ile Gln His Gln
                325                 330                 335
Asp Trp Met Ser Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp
            340                 345                 350
Leu Pro Ala Pro Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val
        355                 360                 365
Arg Ala Pro Gln Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr
    370                 375                 380
Lys Lys Gln Val Thr Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu
385                 390                 395                 400
Asp Ile Tyr Val Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr
                405                 410                 415
Lys Asn Thr Glu Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr
            420                 425                 430
Ser Lys Leu Arg Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr
        435                 440                 445
Ser Cys Ser Val Val His Glu Gly Leu His Asn His His Thr Thr Lys
    450                 455                 460
Ser Phe Ser Arg Thr Pro Gly Lys
465                 470
```

<210> 403
<211> 267
<212> PRT
<213> Artificial Sequence

<220>
<223> monkey (mf) PRLR ecto-mmH

<400> 403

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

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Ile Val Gln Pro Asp Pro Pro Leu Glu Leu Thr Val Glu Val Lys Gln
    130                 135                 140
Pro Glu Asp Arg Lys Pro Tyr Leu Trp Met Lys Trp Ser Pro Pro Thr
145                 150                 155                 160
Leu Ile Asp Leu Lys Thr Gly Trp Phe Thr Leu Leu Tyr Glu Ile Arg
                165                 170                 175
Leu Lys Pro Glu Lys Ala Ala Glu Trp Glu Thr His Phe Ala Gly Gln
            180                 185                 190
Gln Thr Glu Phe Lys Ile Leu Ser Leu His Pro Gly Gln Lys Tyr Leu
        195                 200                 205
Val Gln Val Arg Cys Lys Pro Asp His Gly Tyr Trp Ser Ala Trp Ser
    210                 215                 220
Pro Ala Thr Phe Ile Gln Ile Pro Ser Asp Phe Ile Met Asn Asp Glu
225                 230                 235                 240
Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln Lys Leu Ile
                245                 250                 255
Ser Glu Glu Asp Leu His His His His His His
            260                 265


<210> 404
<211> 622
<212> PRT
<213> Artificial Sequence

<220>
<223> full length human PRLR

<400> 404
Met Lys Glu Asn Val Ala Ser Ala Thr Val Phe Thr Leu Leu Leu Phe
 1               5                  10                  15
Leu Asn Thr Cys Leu Leu Asn Gly Gln Leu Pro Pro Gly Lys Pro Glu
            20                  25                  30
Ile Phe Lys Cys Arg Ser Pro Asn Lys Glu Thr Phe Thr Cys Trp Trp
        35                  40                  45
Arg Pro Gly Thr Asp Gly Gly Leu Pro Thr Asn Tyr Ser Leu Thr Tyr
    50                  55                  60
His Arg Glu Gly Glu Thr Leu Met His Glu Cys Pro Asp Tyr Ile Thr
65                  70                  75                  80
Gly Gly Pro Asn Ser Cys His Phe Gly Lys Gln Tyr Thr Ser Met Trp
                85                  90                  95
Arg Thr Tyr Ile Met Met Val Asn Ala Thr Asn Gln Met Gly Ser Ser
            100                 105                 110
Phe Ser Asp Glu Leu Tyr Val Asp Val Thr Tyr Ile Val Gln Pro Asp
        115                 120                 125
Pro Pro Leu Glu Leu Ala Val Glu Val Lys Gln Pro Glu Asp Arg Lys
    130                 135                 140
Pro Tyr Leu Trp Ile Lys Trp Ser Pro Pro Thr Leu Ile Asp Leu Lys
145                 150                 155                 160
Thr Gly Trp Phe Thr Leu Leu Tyr Glu Ile Arg Leu Lys Pro Glu Lys
                165                 170                 175
Ala Ala Glu Trp Glu Ile His Phe Ala Gly Gln Gln Thr Glu Phe Lys
            180                 185                 190
Ile Leu Ser Leu His Pro Gly Gln Lys Tyr Leu Val Gln Val Arg Cys
        195                 200                 205
Lys Pro Asp His Gly Tyr Trp Ser Ala Trp Ser Pro Ala Thr Phe Ile
    210                 215                 220
Gln Ile Pro Ser Asp Phe Thr Met Asn Asp Thr Thr Val Trp Ile Ser
225                 230                 235                 240
Val Ala Val Leu Ser Ala Val Ile Cys Leu Ile Ile Val Trp Ala Val
```

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                245                 250                 255
Ala Leu Lys Gly Tyr Ser Met Val Thr Cys Ile Phe Pro Pro Val Pro
            260                 265                 270
Gly Pro Lys Ile Lys Gly Phe Asp Ala His Leu Leu Glu Lys Gly Lys
        275                 280                 285
Ser Glu Glu Leu Leu Ser Ala Leu Gly Cys Gln Asp Phe Pro Pro Thr
    290                 295                 300
Ser Asp Tyr Glu Asp Leu Leu Val Glu Tyr Leu Glu Val Asp Asp Ser
305                 310                 315                 320
Glu Asp Gln His Leu Met Ser Val His Ser Lys Glu His Pro Ser Gln
                325                 330                 335
Gly Met Lys Pro Thr Tyr Leu Asp Pro Asp Thr Asp Ser Gly Arg Gly
            340                 345                 350
Ser Cys Asp Ser Pro Ser Leu Leu Ser Glu Lys Cys Glu Glu Pro Gln
        355                 360                 365
Ala Asn Pro Ser Thr Phe Tyr Asp Pro Glu Val Ile Glu Lys Pro Glu
    370                 375                 380
Asn Pro Glu Thr Thr His Thr Trp Asp Pro Gln Cys Ile Ser Met Glu
385                 390                 395                 400
Gly Lys Ile Pro Tyr Phe His Ala Gly Gly Ser Lys Cys Ser Thr Trp
                405                 410                 415
Pro Leu Pro Gln Pro Ser Gln His Asn Pro Arg Ser Ser Tyr His Asn
            420                 425                 430
Ile Thr Asp Val Cys Glu Leu Ala Val Gly Pro Ala Gly Ala Pro Ala
        435                 440                 445
Thr Leu Leu Asn Glu Ala Gly Lys Asp Ala Leu Lys Ser Ser Gln Thr
    450                 455                 460
Ile Lys Ser Arg Glu Glu Gly Lys Ala Thr Gln Gln Arg Glu Val Glu
465                 470                 475                 480
Ser Phe His Ser Glu Thr Asp Gln Asp Thr Pro Trp Leu Leu Pro Gln
                485                 490                 495
Glu Lys Thr Pro Phe Gly Ser Ala Lys Pro Leu Asp Tyr Val Glu Ile
            500                 505                 510
His Lys Val Asn Lys Asp Gly Ala Leu Ser Leu Leu Pro Lys Gln Arg
        515                 520                 525
Glu Asn Ser Gly Lys Pro Lys Lys Pro Gly Thr Pro Glu Asn Asn Lys
    530                 535                 540
Glu Tyr Ala Lys Val Ser Gly Val Met Asp Asn Asn Ile Leu Val Leu
545                 550                 555                 560
Val Pro Asp Pro His Ala Lys Asn Val Ala Cys Phe Glu Glu Ser Ala
                565                 570                 575
Lys Glu Ala Pro Pro Ser Leu Glu Gln Asn Gln Ala Glu Lys Ala Leu
            580                 585                 590
Ala Asn Phe Thr Ala Thr Ser Ser Lys Cys Arg Leu Gln Leu Gly Gly
        595                 600                 605
Leu Asp Tyr Leu Asp Pro Ala Cys Phe Thr His Ser Phe His
    610                 615                 620
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