SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc.

<120> Anti-ANGPTL3 Antibodies and Uses Thereof

<130> 6500A-WO

<140> To be assigned
<141> Filed herewith

<150> 61/498,518
<151> 2011-06-17

<150> 61/578,309
<151> 2011-12-21

<160> 194

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ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatt tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agctgaggac acggctgtgt attactgtgc gaaagtggga 300
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            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Val Ile Ser Tyr Asp Gly Ser Asn 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 Tyr Cys
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Ala Lys Val Gly Ala Thr Thr Phe Tyr Tyr Tyr Tyr Gly Met Asp Val
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Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttacta ttgtcaaaag gctaacagtt tcccattcac tttcggccct 300
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            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Ala Ala Ser 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
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85 90 95

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ccaggcaagg ggctggagtg ggtggcagtt atatcaaatg atggaagtaa taaatactat 180
gtagattccg tgaagggccg attcaccatg ggcagagaca attccaagaa cacgctgtat 240
ctccaaatga acagcctgag agttgaggac acggctgtgt attactgtgc gaaaggggct 300
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gtctcctca 369

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

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            100                 105                 110
Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<400> 22
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1 5 10 15

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aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcaccag cctgcagcct 240
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20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Phe 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 Thr Ser Leu Gln Pro
65 70 75 80
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ile Tyr Ser Trp
85 90 95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

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<400> 28
Gln Ser Ile Ser Ser Trp
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<210> 29
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<212> DNA
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<400> 30
Lys Ala Ser
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<400> 32
Gln Gln Tyr Asn Ile Tyr Ser Trp Thr
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ccaggcaagg ggctggagtg gatggcagtt atatcatttg atagaggtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agctgaggac acggctgtgt attactgtgc gaaaggggg 300
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accgtctcct ca 372

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

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<400> 38
Ile Ser Phe Asp Arg Gly Asn Lys
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<400> 40
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Val

<210> 41
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gggaaagtcc ctaaggtcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttacta ttgtcaacag gctaacagtt tcccattcac tttcggccct 300
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20 25 30
Leu Ala Trp Tyr His Gln Lys Pro Gly Lys Val Pro Lys Val Leu Ile
35 40 45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Phe
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Glu Ile Lys Arg
100 105

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<210> 45
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<210> 46
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<400> 46
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caacaggcta acagtttccc attcact 27

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aatgattatg cagtgtctgt gagaggtcga ataaccatca acccagacac atccaataac 240
cagttctccc tacatctgaa ctctgtgact cccgaggaca cggcgatgta ttactgtgca 300
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gtcaccgtct cctca 375

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

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<210> 53
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<400> 56
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aggttcagcg gcagtggatc tgggacagag ttcactctca ccatcagcag cctgcagcct 240
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<212> PRT
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20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Pro 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 Thr Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Ser Pro
85 90 95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
100 105

<210> 59
<211> 18

<212> DNA
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<220>
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<400> 59
cagagtatta attactgg 18

<210> 60
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<220>
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<400> 60
Gln Ser Ile Asn Tyr Trp
1 5

<210> 61
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<220>
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<400> 61
aaggcgtct 9

<210> 62
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<400> 62
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<210> 63
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<400> 63
caacagtata atagttattc tccgacg 27

<210> 64

<211> 9
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<400> 64
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<400> 65
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ccagggaagg gtctggagtg ggtctctgcc ataagtggtg atggcggtag cacatactat 180
gcagactcgg tgaagggccg attcaccatc tccagagaca acagcaaaaa ctccctgtat 240
ctgcaaatga acagtctgag agctgaggac accgcctttt tttactgtgc aaaagatctc 300
cgtaatacga tttttggagt ggttattccc gatgcttttg atatctgggg ccaagggaca 360
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<400> 66
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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 Asn Trp Val Arg Gln Gly Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Ser Gly Asp Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Phe Phe Tyr Cys
                85   90   95
Ala Lys Asp Leu Arg Asn Thr Ile Phe Gly Val Val Ile Pro Asp Ala
            100   105   110
Phe Asp Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
        115   120   125

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

<210> 69
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<400> 69
ataagtggtg atggcggtag caca 24

<210> 70
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Ile Ser Gly Asp Gly Gly Ser Thr
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<210> 71
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<400> 71
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<210> 72

<211> 19
<212> PRT
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<220>
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<400> 72
Ala Lys Asp Leu Arg Asn Thr Ile Phe Gly Val Val Ile Pro Asp Ala
 1   5   10   15
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atcacttgcc gggccagtca gagcattagg agctggttgg cctggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctataag gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacaa tataatagtt attcgtacac ttttggccag 300
gggaccaagc tggagatcaa acga   324

<210> 74
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 74
Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Arg Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Lys Ala Ser Ser Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Ser Tyr
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
            100   105

<210> 75
<211> 18
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 75
cagagcatta ggagctgg 18

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

<220>
<223> Synthetic

<400> 76
Gln Ser Ile Arg 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
caacaatata atagttattc gtacact 27

<210> 80
<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 81
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 81
caggtgcagc tggtggagtc gggggggaggc ttggtcaagc ctggagggtc cctgagactc 60
tcctgtgcag cctctggatt cactttcagt gactactaca tgagctggat ccgtcaggct 120
ccagggaagg ggctggagtg ggtttcatac attggtagta gtggtgtcaa catgtactac 180
gcagactctg tgaagggccg attcaccatc tccagggaca acgccaagaa ttcattatat 240
ctggaaatga acagcctgag agccgaggac acggctgttt attactgtgc gagagactct 300
tcccaactgg gttttgacta ctggggccag ggaaccctgg tcaccgtctc ctca   354

<210> 82
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 83
ggattcactt tcagtgacta ctac 24

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

<220>
<223> Synthetic

<400> 84
Gly Phe Thr Phe Ser Asp Tyr Tyr
1 5

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

<220>
<223> Synthetic

<400> 85
attggtagta gtggtgtcaa catg 24

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

<220>
<223> Synthetic

<400> 86
Ile Gly Ser Ser Gly Val Asn Met
1 5

<210> 87
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87
gcgagagact cttcccaact gggttttgac tac 33

<210> 88
<211> 11
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 88
Ala Arg Asp Ser Ser Gln Leu Gly Phe Asp Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 89
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc ggacaagtca gaatattatc aacttttaa attggtatca acagaaacct 120
gggaaggccc ctaaactcct gatctatact acttccactt tacaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctct ccatcaatag tctacaacct 240
gaagattttg caacttactt ctgtcaacag acttacagta atccactcac tttcggcgga 300
gggaccaagg tggagatcaa acga   324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 91
cagaatatta tcaacttt 18

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

<220>
<223> Synthetic

<400> 92
Gln Asn Ile Ile Asn Phe
1 5

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

<220>
<223> Synthetic

<400> 93
actacttcc 9

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

<220>
<223> Synthetic

<400> 94
Thr Thr Ser
1

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

<220>
<223> Synthetic

<400> 95
caacagactt acagtaatcc actcact 27

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

<220>

<223> Synthetic

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

<210> 97
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97
gaggtgcagc tggtgcagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt aattatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt gtttggtatg atggagataa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagatatt 300
atcacatctc gcccgacttt ggactactgg ggccagggaa ccctggtcac tgtctcctca 360

<210> 98
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 98
Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Val Val Trp Tyr Asp Gly Asp Asn Lys Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Asp Ile Ile Thr Ser Arg Pro Thr Leu Asp Tyr Trp Gly Gln
            100   105   110
Gly Thr Leu Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 99
ggattcacct tcagtaatta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 101
gtttggtatg atggagataa taaa 24

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

<220>
<223> Synthetic

<400> 102
Val Trp Tyr Asp Gly Asp Asn Lys
1 5

<210> 103
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103
gcgagagata ttatcacatc tcgcccgact ttggactac 39

<210> 104
<211> 13
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 104
Ala Arg Asp Ile Ile Thr Ser Arg Pro Thr Leu Asp Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 105
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca gggcattaac agttatttag cctggtatca gcaaaaacca 120
gggaaagccc ctaagctcct gatctatcct gcatccactt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gtagattttg caacttatta ctgtcaacag cttaatagtt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga   324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 107
cagggcatta acagttat   18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 109
cctgcatcc 9

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

<220>
<223> Synthetic

<400> 110
Pro Ala Ser
 1

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

<220>
<223> Synthetic

<400> 111
caacagctta atagttaccc gctcact 27

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

<220>
<223> Synthetic

<400> 112

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Gln Gln Leu Asn Ser Tyr Pro Leu Thr
 1               5


<210> 113
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113
caggtgcagc tggtggagtc ggggggaggc ttggtcaagc ctggagggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt gactactaca tgagctggat ccgccaggct 120
ccagggaagg ggctggagtg ggtttcatac attagtagta gtggtagtac catatactac 180
gcagactctg tgaagggccg attcaccata tccagggaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtgt attactgtgc gagagattct 300
tcccaactgg gttttgacta ctggggccag ggaaccctgg tcaccgtctc ctca       354

<210> 114
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Tyr
            20                  25                  30
Tyr Met Ser Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Tyr Ile Ser Ser Ser Gly Ser Thr 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 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 Ser Ser Gln Leu Gly Phe Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110
Leu Val Thr Val Ser Ser
        115


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

<220>
<223> Synthetic

<400> 115
ggattcacct tcagtgacta ctac                                      24
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<210> 116
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 117
attagtagta gtggtagtac cata   24

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

<220>
<223> Synthetic

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

<210> 119
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 119
gcgagagatt cttcccaact gggttttgac tac   33

<210> 120
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120
Ala Arg Asp Ser Ser Gln Leu Gly Phe Asp Tyr

1 5 10

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

<220>
<223> Synthetic

<400> 121
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattatc agcttttaa attggtatca gcagaaacca 120
gggaaggccc ctaagctcct gatctatact gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctacaacct 240
gaagattttg caacttacta ctgtcaacag acttacagta atccgctcac tttcggcgga 300
gggaccaagg tggaaatcaa acga 324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 123
cagagcatta tcagcttt 18

<210> 124
<211> 6
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 124
Gln Ser Ile Ile Ser Phe
 1   5

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

<220>
<223> Synthetic

<400> 125
actgcatcc   9

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

<220>
<223> Synthetic

<400> 126
Thr Ala Ser
 1

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

<220>
<223> Synthetic

<400> 127
caacagactt acagtaatcc gctcact   27

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

<220>
<223> Synthetic

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

<210> 129
<211> 342
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 129
caggtgcagc tggtacagtc tggacctgag gtgaagaagc ctggggcctc agtgagggtc 60
tcctgtaagg cttctggtta ccttagtgac tttattatca cctgggtgcg acaggcccct 120
ggacaagggc ttgagtggat gggatggatc agcacttaca gtggtgacac agactctgca 180
ccgaagttcc agggcagagt caccatgacc acagacacat ccacgactac agtcttcttg 240
gaactgagga gcctgagatc tgacgacacg gccgtgtatt attgtgcgag agggcggctg 300
tttgactact ggggccaggg aaccctggtc accgtctcct ca 342

<210> 130
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 131
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 131
ggttaccttа gtgactttat t 21

<210> 132
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 132
Gly Tyr Leu Ser Asp Phe Ile
 1   5

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

<220>
<223> Synthetic

<400> 133
atcagcactt acagtggtga caca   24

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

<220>
<223> Synthetic

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

<210> 135
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 135
gcgagagggc ggctgtttga ctac   24

<210> 136
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 136
Ala Arg Gly Arg Leu Phe Asp Tyr
 1   5

<210> 137

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

<220>
<223> Synthetic

<400> 137
gatgttgtga tgactcagtc tccactctcc ctgcccgtca cccttggaca gccggcctcc 60
atctcctgca ggtctagtca aagcctcgta tacagtgatg gaaacaccta cttgaattgg 120
tttcaacaga ggccaggcca atctccaagg cgcctaattt ataaggtttc taaccgggac 180
tctggggtcc cagacagatt cagcggcagt gggtcaggca ctgatttcac actgaaaatc 240
agcagggtgg aggctgagga tgttggggtt tattactgca tgcaaggtac acactggccg 300
tacacttttg gccaggggac caagctggag atcaaacga 339

<210> 138
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 139
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 139
caaagcctcg tatacagtga tggaaacacc tac 33

<210> 140
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 141
aaggtttct   9

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

<220>
<223> Synthetic

<400> 142
Lys Val Ser
 1

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

<220>
<223> Synthetic

<400> 143
atgcaaggta cacactggcc gtacact   27

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

<220>
<223> Synthetic

<400> 144
Met Gln Gly Thr His Trp Pro Tyr Thr
 1   5

<210> 145
<211> 354

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145
caggtgcagc tggtggagtc tgggggagtc tcggtcaagc ctggagggtc cctgcgactc 60
tcctgtgcag cctctggatt caccttcagt gactactaca tgagctggat ccgccaggcg 120
ccagggaagg gactggagtg ggtttcgtac attggtagta gtggtactaa tgactactac 180
gcagactctg tgaagggccg attcaccatc tccagggaca acgccaagaa ctcactgtat 240
cttcaaatgg acagcctgag agccgaggac acggccgtct attactgtgc gagagattct 300
tcccaaatgg gttttgacta ctggggccag ggaaccctgg tcactgtctc ctca 354

<210> 146
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 147
ggattcacct tcagtgacta ctac 24

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

<220>

<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 149
attggtagta gtggtactaa tgac   24

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

<220>
<223> Synthetic

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

<210> 151
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 151
gcgagagatt cttcccaaat gggttttgac tac   33

<210> 152
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 152
Ala Arg Asp Ser Ser Gln Met Gly Phe Asp Tyr
 1   5   10

<210> 153
<211> 324
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 153
gacatccaga tgacccagtc tccatcctcc ctgtctgctt ctgtgggaga cagagtcacc 60
atcacttgcc gggcaagtca gaacattatc aacttttaa attggtatca gcagagacca 120
gggaaagccc ctcagctcct gatctatgtt gcagccagct tgcagagtgg ggtcccatca 180
aggttcactg gcagtggata tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaggatttcg caacttacta ctgtcaacag acttacacta acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa acga 324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 155
cagaacatta tcaacttt 18

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

<220>
<223> Synthetic

<400> 156

Gln Asn Ile Ile Asn Phe
1 5

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

<220>
<223> Synthetic

<400> 157
gttgcagcc 9

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

<220>
<223> Synthetic

<400> 158
Val Ala Ala
1

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

<220>
<223> Synthetic

<400> 159
caacagactt acactaaccc gctcact 27

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

<220>
<223> Synthetic

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

<210> 161
<211> 460
<212> PRT
<213> Homo sapiens

<400> 161

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

<210> 162
<211> 1383
<212> DNA
<213> Homo sapiens

<400> 162
atgttcacaa ttaagctcct tctttttatt gttcctctag ttatttcctc cagaattgat 60
caagacaatt catcatttga ttctctatct ccagagccaa aatcaagatt tgctatgtta 120
gacgatgtaa aaattttagc caatggcctc cttcagttgg gacatggtct taaagacttt 180
gtccataaga cgaagggcca aattaatgac atatttcaaa aactcaacat atttgatcag 240
tctttttatg atctatcgct gcaaaccagt gaaatcaaag aagaagaaaa ggaactgaga 300
agaactacat ataaactaca agtcaaaaat gaagaggtaa agaatatgtc acttgaactc 360
aactcaaaac ttgaaagcct cctagaagaa aaaattctac ttcaacaaaa agtgaaatat 420
ttagaagagc aactaactaa cttaattcaa aatcaacctg aaactccaga acacccagaa 480
gtaacttcac ttaaaacttt tgtagaaaaa caagataata gcatcaaaga ccttctccag 540
accgtggaag accaatataa acaattaaac caacagcata gtcaaataaa agaaatagaa 600
aatcagctca gaaggactag tattcaagaa cccacagaaa tttctctatc ttccaagcca 660
agagcaccaa gaactactcc ctttcttcag ttgaatgaaa taagaaatgt aaaacatgat 720
ggcattcctg ctgaatgtac caccatttat aacagaggtg aacatacaag tggcatgtat 780
gccatcagac ccagcaactc tcaagttttt catgtctact gtgatgttat atcaggtagt 840
ccatggacat taattcaaca tcgaatagat ggatcacaaa acttcaatga aacgtgggag 900
aactacaaat atggttttgg gaggcttgat ggagaatttt ggttgggcct agagaagata 960
tactccatag tgaagcaatc taattatgtt ttacgaattg agttggaaga ctggaaagac
1020
aacaaacatt atattgaata ttctttttac ttgggaaatc acgaaaccaa ctatacgcta
1080
catctagttg cgattactgg caatgtcccc aatgcaatcc cggaaaacaa agatttggtg
1140
ttttctactt gggatcacaa agcaaaagga cacttcaact gtccagaggg ttattcagga
1200
ggctggtggt ggcatgatga gtgtggagaa aacaacctaa atggtaaata taacaaacca
1260
agagcaaaat ctaagccaga gaggagaaga ggattatctt ggaagtctca aaatggaagg
1320
ttatactcta taaaatcaac caaaatgttg atccatccaa cagattcaga aagctttgaa
1380
tga
1383

<210> 163
<211> 455
<212> PRT
<213> Mus musculus

<400> 163
Met His Thr Ile Lys Leu Phe Leu Phe Val Val Pro Leu Val Ile Ala
 1   5   10   15
Ser Arg Val Asp Pro Asp Leu Ser Ser Phe Asp Ser Ala Pro Ser Glu
            20   25   30
Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn
        35   40   45
Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr
    50   55   60
Lys Gly Gln Ile Asn Asp Ile Phe Gln Lys Leu Asn Ile Phe Asp Gln
65   70   75   80
Ser Phe Tyr Asp Leu Ser Leu Arg Thr Asn Glu Ile Lys Glu Glu Glu

```
                85                  90                  95
Lys Glu Leu Arg Arg Thr Thr Ser Thr Leu Gln Val Lys Asn Glu Glu
            100                 105                 110
Val Lys Asn Met Ser Val Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu
        115                 120                 125
Glu Glu Lys Thr Ala Leu Gln His Lys Val Arg Ala Leu Glu Glu Gln
    130                 135                 140
Leu Thr Asn Leu Ile Leu Ser Pro Ala Gly Ala Gln Glu His Pro Glu
145                 150                 155                 160
Val Thr Ser Leu Lys Ser Phe Val Glu Gln Gln Asp Asn Ser Ile Arg
                165                 170                 175
Glu Leu Leu Gln Ser Val Glu Glu Gln Tyr Lys Gln Leu Ser Gln Gln
            180                 185                 190
His Met Gln Ile Lys Glu Ile Glu Lys Gln Leu Arg Lys Thr Gly Ile
        195                 200                 205
Gln Glu Pro Ser Glu Asn Ser Leu Ser Ser Lys Ser Arg Ala Pro Arg
    210                 215                 220
Thr Thr Pro Pro Leu Gln Leu Asn Glu Thr Glu Asn Thr Glu Gln Asp
225                 230                 235                 240
Asp Leu Pro Ala Asp Cys Ser Ala Val Tyr Asn Arg Gly Glu His Thr
                245                 250                 255
Ser Gly Val Tyr Thr Ile Lys Pro Arg Asn Ser Gln Gly Phe Asn Val
            260                 265                 270
Tyr Cys Asp Thr Gln Ser Gly Ser Pro Trp Thr Leu Ile Gln His Arg
        275                 280                 285
Lys Asp Gly Ser Gln Asp Phe Asn Glu Thr Trp Glu Asn Tyr Glu Lys
    290                 295                 300
Gly Phe Gly Arg Leu Asp Gly Glu Phe Trp Leu Gly Leu Glu Lys Ile
305                 310                 315                 320
Tyr Ala Ile Val Gln Gln Ser Asn Tyr Ile Leu Arg Leu Glu Leu Gln
                325                 330                 335
Asp Trp Lys Asp Ser Lys His Tyr Val Glu Tyr Ser Phe His Leu Gly
            340                 345                 350
Ser His Glu Thr Asn Tyr Thr Leu His Val Ala Glu Ile Ala Gly Asn
        355                 360                 365
Ile Pro Gly Ala Leu Pro Glu His Thr Asp Leu Met Phe Ser Thr Trp
    370                 375                 380
Asn His Arg Ala Lys Gly Gln Leu Tyr Cys Pro Glu Ser Tyr Ser Gly
385                 390                 395                 400
Gly Trp Trp Trp Asn Asp Ile Cys Gly Glu Asn Asn Leu Asn Gly Lys
                405                 410                 415
Tyr Asn Lys Pro Arg Thr Lys Ser Arg Pro Glu Arg Arg Arg Gly Ile
            420                 425                 430
Tyr Trp Arg Pro Gln Ser Arg Lys Leu Tyr Ala Ile Lys Ser Ser Lys
        435                 440                 445
Met Met Leu Gln Pro Thr Thr
    450                 455


<210> 164
<211> 406
<212> PRT
<213> Homo sapiens

<400> 164
Met Ser Gly Ala Pro Thr Ala Gly Ala Ala Leu Met Leu Cys Ala Ala
 1               5                  10                  15
Thr Ala Val Leu Leu Ser Ala Gln Gly Gly Pro Val Gln Ser Lys Ser
```

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

<210> 165
<211> 386
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 166
<211> 235
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 166
Gly Ala Pro Ser Arg Val Asp Pro Asp Leu Ser Ser Phe Asp Ser Ala
 1   5   10   15
Pro Ser Glu Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile
            20   25   30
Leu Ala Asn Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val
        35   40   45
His Lys Thr Lys Gly Gln Ile Asn Asp Ile Phe Gln Lys Leu Asn Ile
    50   55   60
Phe Asp Gln Ser Phe Tyr Asp Leu Ser Leu Arg Thr Asn Glu Ile Lys
65   70   75   80
Glu Glu Glu Lys Glu Leu Arg Arg Thr Thr Ser Thr Leu Gln Val Lys
                85   90   95
Asn Glu Glu Val Lys Asn Met Ser Val Glu Leu Asn Ser Lys Leu Glu
            100   105   110
Ser Leu Leu Glu Glu Lys Thr Ala Leu Gln His Lys Val Arg Ala Leu
        115   120   125
Glu Glu Gln Leu Thr Asn Leu Ile Leu Ser Pro Ala Gly Ala Gln Glu
    130   135   140
His Pro Glu Val Thr Ser Leu Lys Ser Phe Val Glu Gln Gln Asp Asn
145   150   155   160
Ser Ile Arg Glu Leu Leu Gln Ser Val Glu Glu Gln Tyr Lys Gln Leu
                165   170   175
Ser Gln Gln His Met Gln Ile Lys Glu Ile Glu Lys Gln Leu Arg Lys
            180   185   190
Thr Gly Ile Gln Glu Pro Ser Glu Asn Ser Leu Ser Ser Lys Ser Arg
        195   200   205
Ala Pro Arg Thr Thr Pro Pro Leu Gln Leu Asn Glu Thr Glu Asn Thr
    210   215   220
Glu Gln Asp Ala Ser His His His His His His
225   230   235

<210> 167
<211> 182
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 167
Ser Arg Ile Asp Gln Asp Asn Ser Ser Phe Asp Ser Val Ser Pro Glu
 1   5   10   15
Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn
            20   25   30
Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr
        35   40   45
Lys Gly Gln Ile Asn Asp Ile Phe Gln Lys Leu Asn Ile Phe Asp Gln
    50   55   60
Ser Phe Tyr Asp Leu Ser Leu Gln Thr Ser Glu Ile Lys Glu Glu Glu
65   70   75   80
Lys Glu Leu Arg Arg Thr Thr Tyr Lys Leu Gln Val Lys Asn Glu Glu
                85   90   95

```
Val Lys Asn Met Ser Leu Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu
            100                 105                 110
Glu Glu Lys Ile Leu Leu Gln Gln Lys Val Lys Tyr Leu Glu Glu Gln
        115                 120                 125
Leu Thr Asn Leu Ile Gln Asn Gln Pro Ala Thr Pro Glu His Pro Glu
    130                 135                 140
Val Thr Ser Leu Lys Ser Phe Val Glu Lys Glu Gln Lys Leu Ile Ser
145                 150                 155                 160
Glu Glu Asp Leu Gly Gly Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
                165                 170                 175
His His His His His His
            180
```

<210> 168
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 168
```
Arg Phe Ala Ser Trp Asp Glu Met Asn Val Leu Ala His Gly Leu Leu
 1               5                  10                  15
Gln Leu Gly Gln Gly Leu Arg Glu His Ala Glu Arg Thr Arg Ser Gln
            20                  25                  30
Leu
```

<210> 169
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 169
```
Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn Gly Leu Leu
 1               5                  10                  15
Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr Lys Gly Gln
            20                  25                  30
Ile
```

<210> 170
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 170
```
Glu Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala
```

```
 1               5                  10                  15
Asn Gly Leu Leu Gln Leu Gly His Gly Leu
            20                  25
```

<210> 171
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 171
```
Ala Gly Ser Ser Pro Gly Gly
 1               5
```

<210> 172
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 172
```
Gly Gly Gly Gly Ser
 1               5
```

<210> 173
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 173
```
Gly Pro Ser Ser Gly Ala Pro Pro Pro Lys
 1               5                  10
```

<210> 174
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 174
```
Gly Gly Gly Gly Ser Lys
 1               5
```

<210> 175

<211> 455
<212> PRT
<213> Rattus norvegicus

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

```
            420                 425                 430
Ser Trp Arg Pro Arg Gly Gly Lys Leu Tyr Ser Ile Lys Ser Ser Lys
        435                 440                 445
Met Met Leu Gln Pro Thr Thr
    450                 455


<210> 176
<211> 252
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 176
Ser Arg Val Asp Pro Asp Leu Ser Pro Phe Asp Ser Val Pro Ser Glu
 1               5                  10                  15
Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn
            20                  25                  30
Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr
        35                  40                  45
Lys Gly Gln Ile Asn Asp Ile Phe Gln Lys Leu Asn Ile Phe Asp Gln
    50                  55                  60
Cys Phe Tyr Asp Leu Ser Leu Gln Thr Asn Glu Ile Lys Glu Glu Glu
65                  70                  75                  80
Lys Glu Leu Arg Arg Thr Thr Ser Lys Leu Gln Val Lys Asn Glu Glu
                85                  90                  95
Val Lys Asn Met Ser Leu Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu
            100                 105                 110
Glu Glu Lys Met Ala Leu Gln His Arg Val Arg Ala Leu Glu Glu Gln
        115                 120                 125
Leu Thr Ser Leu Val Gln Asn Pro Pro Gly Ala Arg Glu His Pro Glu
    130                 135                 140
Val Thr Ser Leu Lys Ser Phe Val Glu Gln Gln Asp Asn Ser Ile Arg
145                 150                 155                 160
Glu Leu Leu Gln Ser Val Glu Glu Gln Tyr Lys Gln Leu Ser Gln Gln
                165                 170                 175
His Ile Gln Ile Lys Glu Ile Glu Asn Gln Leu Arg Lys Thr Gly Ile
            180                 185                 190
Gln Glu Pro Thr Glu Asn Ser Leu Tyr Ser Lys Pro Arg Ala Pro Arg
        195                 200                 205
Thr Thr Pro Pro Leu His Leu Lys Glu Ala Lys Asn Ile Glu Gln Asp
    210                 215                 220
Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Gly Gly Glu Gln Lys Leu
225                 230                 235                 240
Ile Ser Glu Glu Asp Leu His His His His His His
                245                 250


<210> 177
<211> 210
<212> PRT
<213> Macaca fascicularis

<400> 177
Met Phe Thr Ile Lys Leu Leu Leu Phe Ile Val Pro Leu Val Ile Ser
 1               5                  10                  15
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```
Ser Arg Ile Asp Gln Asp Asn Ser Ser Phe Asp Ser Val Ser Pro Glu
            20                  25                  30
Pro Lys Ser Arg Phe Ala Met Leu Asp Asp Val Lys Ile Leu Ala Asn
        35                  40                  45
Gly Leu Leu Gln Leu Gly His Gly Leu Lys Asp Phe Val His Lys Thr
    50                  55                  60
Lys Gly Gln Ile Asn Asp Ile Phe Gln Lys Leu Asn Ile Phe Asp Gln
65                  70                  75                  80
Ser Phe Tyr Asp Leu Ser Leu Gln Thr Ser Glu Ile Lys Glu Glu Glu
                85                  90                  95
Lys Glu Leu Arg Arg Thr Thr Tyr Lys Leu Gln Val Lys Asn Glu Glu
            100                 105                 110
Val Lys Asn Met Ser Leu Glu Leu Asn Ser Lys Leu Glu Ser Leu Leu
        115                 120                 125
Glu Glu Lys Ile Leu Leu Gln Gln Lys Val Lys Tyr Leu Glu Glu Gln
    130                 135                 140
Leu Thr Asn Leu Ile Gln Asn Gln Pro Ala Thr Pro Glu His Pro Glu
145                 150                 155                 160
Val Thr Ser Leu Lys Ser Phe Val Glu Lys Gln Asp Asn Ser Ile Lys
                165                 170                 175
Asp Leu Leu Gln Thr Val Glu Glu Gln Tyr Lys Gln Leu Asn Gln Gln
            180                 185                 190
His Ser Gln Ile Lys Glu Ile Glu Asn Gln Leu Arg Met Thr Asn Ile
        195                 200                 205
Gln Glu
    210
```

<210> 178
<211> 356
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 178

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

```
                165                 170                 175
Glu Asp Asp Pro Asp Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu
            180                 185                 190
Val His Thr Ala Gln Thr Gln Thr His Arg Glu Asp Tyr Asn Ser Thr
        195                 200                 205
Leu Arg Val Val Ser Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser
    210                 215                 220
Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro
225                 230                 235                 240
Ile Glu Arg Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln
                245                 250                 255
Val Tyr Val Leu Pro Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val
            260                 265                 270
Thr Leu Thr Cys Met Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val
        275                 280                 285
Glu Trp Thr Asn Asn Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu
    290                 295                 300
Pro Val Leu Asp Ser Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg
305                 310                 315                 320
Val Glu Lys Lys Asn Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val
                325                 330                 335
Val His Glu Gly Leu His Asn His His Thr Thr Lys Ser Phe Ser Arg
            340                 345                 350
Thr Pro Gly Lys
        355
```

<210> 179
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 179
gaggtgcagc ttttggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc acctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggaggg ggtctcaggt attagtggta ctggttatag aacatactac 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa ctcgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtat attactgtgc gaaagatcgg 300
ggcttactat ggttcgggga attaacctac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 180
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 180
```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
            20                  25                  30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Gly Val
```

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

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

<220>
<223> Synthetic

<400> 181
ggattcacct ttagcaccta tgcc 24

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

<220>
<223> Synthetic

<400> 182
```
Gly Phe Thr Phe Ser Thr Tyr Ala
 1               5
```

<210> 183
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 183
attagtggta ctggttatag aaca 24

<210> 184
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 184
```
Ile Ser Gly Thr Gly Tyr Arg Thr
```

1 5

<210> 185
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 185
gcgaaagatc ggggcttact atggttcggg gaattaacct ac 42

<210> 186
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 186
Ala Lys Asp Arg Gly Leu Leu Trp Phe Gly Glu Leu Thr Tyr
1 5 10

<210> 187
<211> 318
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 187
gacatccaga tgacccagtc tccttccacc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggccagtca gagtattaat aactggttgg cctggtatca acagaaacca 120
gggaaggccc ctaacctcct gatctataag gcgtctagtt tagaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca ccatcagcag cctgcagcct 240
gatgattttg caacttatta ctgccaacaa tataatgatt attggacgtt cggccaaggg 300
accaaggtgg aaatcaaa 318

<210> 188
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 188
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 Asn Trp
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Asn Leu Leu Ile
35 40 45

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

<210> 189
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 189
cagagtatta ataactgg 18

<210> 190
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 190
```
Gln Ser Ile Asn Asn Trp
 1               5
```

<210> 191
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 191
aaggcgtct 9

<210> 192
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 192
```
Lys Ala Ser
 1
```

<210> 193
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 193
caacaatata atgattattg gacg 24

<210> 194
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 194
Gln Gln Tyr Asn Asp Tyr Trp Thr
1 5