SEQUENCE LISTING

<110> Dyax Corp.
Syntonix Pharmaceuticals, Inc.

<120> FC RECEPTOR BINDING PROTEINS

<130> D0617.70018WO

<140> NOT YET ASSIGNED
<141> herewith

<150> US 61/048,152
<151> 2008-04-25

<150> US 61/048,500
<151> 2008-04-28

<160> 190

<170> PatentIn version 3.5

<210> 1
<211> 365
<212> PRT
<213> Homo sapiens

<400> 1

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Leu Leu Pro Gly Ser Leu Gly Ala Glu Ser His Leu Ser Leu Leu Tyr
20 25 30

His Leu Thr Ala Val Ser Ser Pro Ala Pro Gly Thr Pro Ala Phe Trp
35 40 45

Val Ser Gly Trp Leu Gly Pro Gln Gln Tyr Leu Ser Tyr Asn Ser Leu
50 55 60

Arg Gly Glu Ala Glu Pro Cys Gly Ala Trp Val Trp Glu Asn Gln Val
65 70 75 80

Ser Trp Tyr Trp Glu Lys Glu Thr Thr Asp Leu Arg Ile Lys Glu Lys
85 90 95

Leu Phe Leu Glu Ala Phe Lys Ala Leu Gly Gly Lys Gly Pro Tyr Thr
100 105 110

Leu Gln Gly Leu Leu Gly Cys Glu Leu Gly Pro Asp Asn Thr Ser Val
115 120 125

Pro Thr Ala Lys Phe Ala Leu Asn Gly Glu Glu Phe Met Asn Phe Asp
130 135 140

Leu Lys Gln Gly Thr Trp Gly Gly Asp Trp Pro Glu Ala Leu Ala Ile
145 150 155 160

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Ser Gln Arg Trp Gln Gln Gln Asp Lys Ala Ala Asn Lys Glu Leu Thr
                165                 170                 175

Phe Leu Leu Phe Ser Cys Pro His Arg Leu Arg Glu His Leu Glu Arg
            180                 185                 190

Gly Arg Gly Asn Leu Glu Trp Lys Glu Pro Pro Ser Met Arg Leu Lys
        195                 200                 205

Ala Arg Pro Ser Ser Pro Gly Phe Ser Val Leu Thr Cys Ser Ala Phe
    210                 215                 220

Ser Phe Tyr Pro Pro Glu Leu Gln Leu Arg Phe Leu Arg Asn Gly Leu
225                 230                 235                 240

Ala Ala Gly Thr Gly Gln Gly Asp Phe Gly Pro Asn Ser Asp Gly Ser
                245                 250                 255

Phe His Ala Ser Ser Ser Leu Thr Val Lys Ser Gly Asp Glu His His
            260                 265                 270

Tyr Cys Cys Ile Val Gln His Ala Gly Leu Ala Gln Pro Leu Arg Val
        275                 280                 285

Glu Leu Glu Ser Pro Ala Lys Ser Ser Val Leu Val Val Gly Ile Val
    290                 295                 300

Ile Gly Val Leu Leu Leu Thr Ala Ala Ala Val Gly Gly Ala Leu Leu
305                 310                 315                 320

Trp Arg Arg Met Arg Ser Gly Leu Pro Ala Pro Trp Ile Ser Leu Arg
                325                 330                 335

Gly Asp Asp Thr Gly Val Leu Leu Pro Thr Pro Gly Glu Ala Gln Asp
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Ala Asp Leu Lys Asp Val Asn Val Ile Pro Ala Thr Ala
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<210> 2
<211> 366
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<213> Rattus norvegicus

<400> 2

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

Trp Tyr Trp Glu Lys Glu Thr Thr Asp Leu Lys Ser Lys Glu Gln Leu
                85                  90                  95

Phe Leu Glu Ala Ile Arg Thr Leu Glu Asn Gln Ile Asn Gly Thr Phe
            100                 105                 110

Thr Leu Gln Gly Leu Leu Gly Cys Glu Leu Ala Pro Asp Asn Ser Ser
        115                 120                 125

Leu Pro Thr Ala Val Phe Ala Leu Asn Gly Glu Glu Phe Met Arg Phe
    130                 135                 140

Asn Pro Arg Thr Gly Asn Trp Ser Gly Glu Trp Pro Glu Thr Asp Ile
145                 150                 155                 160

Val Gly Asn Leu Trp Met Lys Gln Pro Glu Ala Ala Arg Lys Glu Ser
                165                 170                 175

Glu Phe Leu Leu Thr Ser Cys Pro Glu Arg Leu Leu Gly His Leu Glu
            180                 185                 190

Arg Gly Arg Gln Asn Leu Glu Trp Lys Glu Pro Pro Ser Met Arg Leu
        195                 200                 205

Lys Ala Arg Pro Gly Asn Ser Gly Ser Ser Val Leu Thr Cys Ala Ala
    210                 215                 220

Phe Ser Phe Tyr Pro Pro Glu Leu Lys Phe Arg Phe Leu Arg Asn Gly
225                 230                 235                 240

Leu Ala Ser Gly Ser Gly Asn Cys Ser Thr Gly Pro Asn Gly Asp Gly
                245                 250                 255

Ser Phe His Ala Trp Ser Leu Leu Glu Val Lys Arg Gly Asp Glu His
            260                 265                 270

His Tyr Gln Cys Gln Val Glu His Glu Gly Leu Ala Gln Pro Leu Thr
        275                 280                 285

Val Asp Leu Asp Ser Pro Ala Arg Ser Ser Val Pro Val Val Gly Ile
    290                 295                 300
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Ile Leu Gly Leu Leu Leu Val Val Val Ala Ile Ala Gly Gly Val Leu
305                 310                 315                 320

Leu Trp Asn Arg Met Arg Ser Gly Leu Pro Ala Pro Trp Leu Ser Leu
                325                 330                 335

Ser Gly Asp Asp Ser Gly Asp Leu Leu Pro Gly Gly Asn Leu Pro Pro
            340                 345                 350

Glu Ala Glu Pro Gln Gly Val Asn Ala Phe Pro Ala Thr Ser
        355                 360                 365
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<210> 3
<211> 119
<212> PRT
<213> Homo sapiens

<400> 3

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Gly Leu Glu Ala Ile Gln Arg Thr Pro Lys Ile Gln Val Tyr Ser Arg
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His Pro Ala Glu Asn Gly Lys Ser Asn Phe Leu Asn Cys Tyr Val Ser
        35                  40                  45

Gly Phe His Pro Ser Asp Ile Glu Val Asp Leu Leu Lys Asn Gly Glu
    50                  55                  60

Arg Ile Glu Lys Val Glu His Ser Asp Leu Ser Phe Ser Lys Asp Trp
65                  70                  75                  80

Ser Phe Tyr Leu Leu Tyr Tyr Thr Glu Phe Thr Pro Thr Glu Lys Asp
                85                  90                  95

Glu Tyr Ala Cys Arg Val Asn His Val Thr Leu Ser Gln Pro Lys Ile
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Val Lys Trp Asp Arg Asp Met
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<211> 119
<212> PRT
<213> Rattus norvegicus

<400> 4

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Val Val Leu Ala Ile Gln Lys Thr Pro Gln Ile Gln Val Tyr Ser Arg
            20                  25                  30
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His Pro Pro Glu Asn Gly Lys Pro Asn Phe Leu Asn Cys Tyr Val Ser
35 40 45

Gln Phe His Pro Pro Gln Ile Glu Ile Glu Leu Leu Lys Asn Gly Lys
50 55 60

Lys Ile Pro Asn Ile Glu Met Ser Asp Leu Ser Phe Ser Lys Asp Trp
65 70 75 80

Ser Phe Tyr Ile Leu Ala His Thr Glu Phe Thr Pro Thr Glu Thr Asp
85 90 95

Val Tyr Ala Cys Arg Val Lys His Val Thr Leu Lys Glu Pro Lys Thr
100 105 110

Val Thr Trp Asp Arg Asp Met
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<210> 5
<211> 1510
<212> DNA
<213> Homo sapiens

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cgggaggagt cacgtgcccc ctcccgcccc aggtcgtcct ctcagcatgg gggtcccgcg 180

gcctcagccc tgggcgctgg ggctcctgct ctttctcctt cctgggagcc tgggcgcaga 240

aagccacctc tccctcctgt accaccttac cgcggtgtcc tcgcctgccc cggggactcc 300

tgccttctgg gtgtccggct ggctgggccc gcagcagtac ctgagctaca atagcctgcg 360

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gaaagagacc acagatctga ggatcaagga gaagctcttt ctggaagctt tcaaagcttt 480

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caagcagggc acctggggtg gggactggcc cgaggccctg gctatcagtc agcggtggca 660

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aaaaaaaaaa 1510

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<211> 984
<212> DNA
<213> Homo sapiens

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gccccgggga ctcctgcctt ctgggtgtcc ggctggctgg gcccgcagca gtacctgagc 180

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tcctggtatt gggagaaaga gaccacagat ctgaggatca aggagaagct ctttctggaa 300

gctttcaaag ctttgggggg aaaaggtccc tacactctgc agggcctgct gggctgtgaa 360

ctgggccctg acaacacctc ggtgcccacc gccaagttcg ccctgaacgg cgaggagttc 420

atgaatttcg acctcaagca gggcacctgg ggtggggact ggcccgaggc cctggctatc 480

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tgcagcgcct tctccttcta ccctccggag ctgcaacttc ggttcctgcg gaatgggctg 720

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tcgtcactaa cagtcaaaag tggcgatgag caccactact gctgcattgt gcagcacgcg 840

gggctggcgc agcccctcag ggtggagctg gaatctccag ccaagtcctc ccggccgctc 900

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atccagcgta ctccaaagat tcaggtttac tcacgtcatc cagcagagaa tggaaagtca 180

aatttcctga attgctatgt gtctgggttt catccatccg acattgaagt tgacttactg 240

aagaatggag agagaattga aaaagtggag cattcagact tgtctttcag caaggactgg 300

tctttctatc tcttgtacta cactgaattc acccccactg aaaaagatga gtatgcctgc 360

cgtgtgaacc atgtgacttt gtcacagccc aagatagtta agtgggatcg agacatgtaa 420

gcagcatcat ggaggtttga agatgccgca tttggattgg atgaattcca aattctgctt 480

gcttgctttt taatattgat atgcttatac acttacactt tatgcacaaa atgtagggtt 540

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<212> PRT
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Ser Ala Ser Ser Ser Ile Ser Ser Asn Tyr Leu His
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<400> 9

Arg Thr Ser Asn Leu Ala Ser
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<210> 10
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<220>

<223> recombinant peptide

<400> 10

Gln Gln Gly Ser Asn Ile Pro Leu Thr
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<210> 11
<211> 5
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<213> Artificial Sequence

<220>
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<400> 11

Arg Ser Trp Met Asn
1 5

<210> 12
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<400> 12

Arg Ile His Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe Lys
1 5 10 15

Gly

<210> 13
<211> 8
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Glu Gly Ser Pro Tyr Phe Asp Tyr
1 5

<210> 14
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 14

Lys Ala Ser Gln Asp Ile Asn Asn Tyr Ile Ala
1 5 10

<210> 15
<211> 7
<212> PRT
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Tyr Thr Ser Thr Leu Gln Pro
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<211> 9
<212> PRT
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<400> 16

Leu Gln Tyr Asp Asn Leu Leu Arg Thr
1 5

<210> 17
<211> 5
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<220>
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<400> 17

Asp Tyr Ala Met His
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<210> 18
<211> 17
<212> PRT
<213> Artificial Sequence

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<400> 18

Val Ile Thr Asn Tyr Tyr Gly Asp Ala Ser Tyr Asn Gln Lys Phe Lys
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Gly

<210> 19
<211> 12
<212> PRT
<213> Artificial Sequence

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Gly Gly Tyr Asp Gly Tyr Tyr Val Asp Phe Asp Tyr
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<211> 214
<212> PRT
<213> Artificial Sequence

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<400> 20

Asp Ile Gln Leu Thr Gln Ser Pro Thr Thr Val Ala Ala Ser Pro Gly
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Glu Lys Ile Thr Ile Thr Cys Ser Ala Ser Ser Ser Ile Ser Ser Asn
20 25 30

Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Phe Ser Pro Lys Leu Leu
35 40 45

Ile Tyr Arg Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Gly Thr Met Glu
65 70 75 80

Ala Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Gly Ser Asn Ile Pro
85 90 95

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala Asp Ala
100 105 110

Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser
115 120 125

Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp
130 135 140

Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val
145 150 155 160

Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met
165 170 175

Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser
180 185 190

Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys
195 200 205

Ser Phe Asn Lys Asn Glu
210

<210> 21
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<220>
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<400> 21

Val Lys Leu Gln Glu Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser
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Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Arg Ser Trp
20 25 30

Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
35 40 45

Arg Ile His Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe Lys
50 55 60

Gly Lys Ala Thr Leu Thr Val Ala Lys Ser Ser Ser Thr Ala Tyr Met
65 70 75 80

Gln Leu Ser Ser Leu Thr Ser Val Asp Ser Ala Val Tyr Phe Cys Ala
85 90 95

Asn Glu Gly Ser Pro Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala
115 120 125

Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu
130 135 140

Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly
145 150 155 160

Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp
165 170 175

Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro
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Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys
195 200 205

Val Asp Lys Lys Leu Glu
210

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<400> 22

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Asp Lys Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asn Asn Tyr
            20                  25                  30

Ile Ala Trp Tyr Gln His Lys Pro Gly Lys Arg Ser Arg Leu Leu Ile
        35                  40                  45

His Tyr Thr Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
    50                  55                  60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
65                  70                  75                  80

Glu Asp Ile Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Asn Leu Leu Arg
                85                  90                  95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala Ala
            100                 105                 110

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly
        115                 120                 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile
    130                 135                 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu
145                 150                 155                 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser
                165                 170                 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr
            180                 185                 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser
        195                 200                 205

Phe Asn Lys Asn Glu
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<400> 23

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Val Lys Ile Ser Cys Lys Gly Ser Gly Tyr Thr Phe Thr Asp Tyr Ala
            20                  25                  30

Met His Trp Val Lys Gln Ser His Ala Lys Ser Leu Glu Trp Ile Gly
        35                  40                  45

Val Ile Thr Asn Tyr Tyr Gly Asp Ala Ser Tyr Asn Gln Lys Phe Lys
    50                  55                  60

Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr Met
65                  70                  75                  80

Glu Leu Ala Arg Leu Thr Ser Glu Asp Ser Ala Ile Tyr Tyr Cys Ala
                85                  90                  95

Arg Gly Gly Tyr Asp Gly Tyr Tyr Val Asp Phe Asp Tyr Trp Gly Gln
            100                 105                 110

Gly Thr Thr Leu Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser Val
        115                 120                 125

Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr
    130                 135                 140

Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr
145                 150                 155                 160

Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val
                165                 170                 175

Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser
            180                 185                 190

Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala
        195                 200                 205
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Ser Ser Thr Lys Val Asp Lys Lys Leu Glu
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<210> 24
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<400> 24

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Leu Glu Trp Lys
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<210> 25
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<212> PRT
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<400> 25

Glu Arg Gly Arg Gly Asn Leu Glu Trp Lys Glu Pro Pro Ser Met Arg
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Leu Lys Ala Arg
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<210> 26
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<212> PRT
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<220>
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<400> 26

Cys Ser Ala Phe Ser Phe Tyr Pro Pro Glu Leu Gln Leu Arg Phe Leu
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Arg Asn Gly Leu
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<210> 27
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<212> PRT
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<400> 27

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Gln Tyr Leu Ser
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<210> 28
<211> 13
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<400> 28

Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Thr Val Ser
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<210> 29
<211> 7
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<220>
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<400> 29

Ser Asp Asn Gln Arg Pro Ser
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<210> 30
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Ala Ala Trp Asp Asp Ser Leu Lys Gly Trp Val
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<400> 32

Ser Ile Trp Ser Ser Gly Gly Ala Thr Val Tyr Ala Asp Ser Val Lys
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Gly

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<400> 33

Asp Ile Arg Gly Ser Arg Asn Trp Phe Asp Pro
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<400> 34

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Gly Asp Ser Gln Arg Pro Ser
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<400> 36

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
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<210> 37
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<400> 37

Glu Tyr Ala Met Gly
1 5

<210> 38
<211> 17
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<400> 38

Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val Lys
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Gly

<210> 39
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<220>
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<400> 39

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<211> 16
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<210> 41
<211> 7
<212> PRT
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<220>

<223> recombinant peptide

<400> 41

Leu Val Ser Asn Arg Ala Ser
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<210> 42
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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<400> 42

Met Gln Ala Gln Gln Thr Pro Ile Thr
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<400> 43

Ile Tyr Ser Met Thr
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<400> 44

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Gly

<210> 45
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<400> 45

Gly His Ser Gly Val Gly Met Asp Val
1 5

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<220>
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<400> 46

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1 5 10 15

<210> 47
<211> 7
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1 5

<210> 48
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<400> 48

Met Gln Gly Leu Gln Thr Pro Arg Thr
1 5

<210> 49
<211> 5
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<400> 49

Phe Tyr Ser Met Thr
1 5

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<211> 17
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Gly Ile Arg Ser Ser Gly Gly Ser Thr Arg Tyr Ala Asp Ser Val Lys
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Gly

<210> 51
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<400> 51

Gly Trp Gly Leu Asp Ala Phe Asp Val
1 5

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<400> 52

Arg Ser Ser Leu Ser Leu Leu His Ser Asn Gly Tyr Ile Tyr Leu Asp
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<220>
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<400> 53

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1 5

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<220>
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<400> 54

Met Gln Pro Leu Gln Thr Pro Tyr Thr
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<400> 55

Tyr Tyr His Met Asn
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<400> 56

Val Ile Ser Pro Ser Gly Gly Val Thr Met Tyr Ala Asp Ser Val Lys
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Gly

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<220>
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<213> Artificial Sequence

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<400> 58

Ser Gly Asp Lys Leu Gly Asp Lys Tyr Val Ser
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Gln Ala Trp Leu Ser Asn Thr Ala Ser Val Ala
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Phe Tyr Gly Met His
1 5

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Gly

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<210> 64
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<400> 64

Arg Ala Ser Gln Pro Val Gly Ser Tyr Leu Ala
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1 5

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<400> 66

Gln His Tyr Gly His Ser Pro Pro Tyr Thr
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<220>
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<400> 67

Ser Tyr Ala Met Tyr
1 5

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<400> 68

Arg Ile Val Pro Ser Gly Gly Gly Thr Met Tyr Ala Asp Ser Val Gln
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Gly

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<400> 70

Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
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1 5

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Gln Gln Arg Ser Asn Trp Pro Leu Thr
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Asn Tyr Asn Met Ser
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Gly

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<211> 7
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1 5

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<210> 77
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1 5

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<400> 78

Gln Gln Arg Ser Asn Trp Pro Pro Thr
1 5

<210> 79
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Tyr Tyr Gly Met Thr
1 5

<210> 80
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<400> 80

Ser Ile Ser Pro Ser Gly Gly His Thr Ser Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

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<400> 81

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Arg Ala Ser Gln Ser Val Gly Ser Tyr Leu Asn
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Ala Ala Tyr Ile Leu Gln Ser
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<400> 84

Gln Gln Ser Tyr Ser Asn Arg Ile Thr
1 5

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<400> 85

Ala Tyr Asn Met Ile
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<210> 87
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1 5 10

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1 5 10

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1 5

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Gln Gln Tyr Gly Ser Ser Pro Arg Thr
1 5

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His Tyr Gly Met Ser
1 5

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1 5 10 15

Gly

<210> 93
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tggtacctgc agaggccagg gcagtctccg cagctcctga tctatttggt ttctaatcgg 180

gcctccgggg tccctgacag gttcagtggc agtgggtcag gcacagattt tacactgaaa 240

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ccgatcacct tcggccaagg gacacgactg gagattaaa 339

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<212> DNA
<213> Artificial Sequence

<220>
<223> recombinant polynucleotide

<400> 95
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tccatgtcct gcaggtctag tctgagcctc ctgcatagta atggatacat ctatttggat 120

tggtacctgc agaggccagg acagtctcca cagctcctga tgtatttggg ttctcatcgg 180

gcctccgggg tccctgacag gttcagtggc agtgggtcag gcacagattt tacactgaac 240

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ccgtacactt ttggccaggg gaccaagctg gagatcaaa 339

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<212> DNA
<213> Artificial Sequence

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accatcactt gccgggcaag tcagagcgtt ggcagttatt taaattggta tcagcagaaa 120

ccaggcgaag cccctaaggc cctgatctat gctgcataca ttttgcaaag tggggtccca 180

tcgaggttca gtggcagcgg ctctgggaca gatttcactc tcaccatcaa cagtctacaa 240

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cctgggacca gagtggatgt caaa 324

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<212> DNA
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tggtatctgc agaagccagg gcagtctcca cagctcctga tctatttggt ttctaatcgg 180

gcctccgggg tccctgacag gttcagtggc agtggatcag gcacagattt tacactgaaa 240

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ccgaggacgt tcggccaggg gaccaaggtg gaaatcaaa 339

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gccaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagcctagag 240

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caagggacac gactggagat taaa 324

<210> 99
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<212> DNA
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accctctcct gccgggccag tcagcctgtt ggcagctact tagcctggta ccaacagaaa 120

cctggccagg ctcccaggct cctcatctat ggtgcatcca atagggccac tggcatccca 180

gccaggttca gtggcagtgg gtctgggaca gacttcactc tcgccatcag cagcctggag 240

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ggccagggga ccaagctgga gatcaaa 327

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aaacctggcc aggctcccag gctcctcatc tatggtgcat ccagcagggc cactggcatc 180

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ggccaaggga ccaaggtgga aatcaaa 327

<210> 101
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tcttgttctg gaagcagctc caacatcgga agtaatactg taagctggta ccagcagctc 120

ccaggaacgg cccccaaact cctcatctat agtgataatc agcggccctc aggggtccct 180

gaccgattcg ctggctccaa gtctggcacc tctgcctccc tggccatcag tgggctccag 240

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ttcggcggag ggacaaagct gaccgtccta 330

<210> 102
<211> 324
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acctgctctg gagataaatt gggggataag tatgtttctt ggtttcaaca gaagccaggc 120

cagtccccta tcctactcct ttatcaagac aacaggcggc cctctgggat ccctgaacga 180

ttctctggct ccaattctgg gaacacagcc tctctgacca tcagcgggac ccaggctatg 240

gatgaggctg actaccactg tcaggcgtgg ctcagcaata ctgcttccgt ggcattcggc 300

ggagggacca ggctgaccgt cctc 324

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accctctcct gcagggccag tcagagtgtt agcagctact tagcctggta ccaacagaaa 120

cctggccagg ctcccaggct cctcatctat gatgcatcca acagggccac tggcatccca 180

gccaggttca gtggcagtgg gtctgggaca gacttcactc tcaccatcag cagcctagag 240

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ggagggacca aggtggagat caaa 324

<210> 104
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tcctgcactg ggaccgggag tgatgttgga agttataacc ttgtctcctg gtaccaaaag 120

taccccggca aagcccccaa actcatcatt tatggggaca gtcagcggcc ctcgggactt 180

tctagtcgct tctctggctc caagtctggc aactcggcct ccctgacaat ctctgggctc 240

caggctgagg acgaggctga ttattactgt tgctcatatg caggtagtgg catttacgtc 300

tttggcagtg ggaccaaggt caccgtccta 330

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Glu Pro Pro Ser Met Arg Leu Lys Ala Arg
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<210> 106
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<400> 106

Cys Ser Ala Phe Tyr Pro Pro Glu Leu Gln Leu Arg Phe Phe Leu Arg
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Asn Gly Leu

<210> 107
<211> 106
<212> PRT
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<400> 107

Ser Gln Pro Lys Ala Asn Pro Thr Val Thr Leu Phe Pro Pro Ser Ser
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Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
20 25 30

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser Pro
35 40 45

Val Lys Ala Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn Asn
50 55 60

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
65 70 75 80

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
85 90 95

Glu Lys Thr Val Ala Pro Ala Glu Cys Ser
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cagagcaaca acaagtacgc ggccagcagc tacctgagcc tgacgcccga gcagtggaag 240

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gcccctgcag aatgctct 318

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Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
20 25 30

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser Pro
35 40 45

Val Lys Ala Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn Asn
50 55 60

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
65 70 75 80

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
85 90 95

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 110
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<400> 110
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ccaacaaggc cacactagtg tgtctgatca gtgacttcta cccgggagct gtgacagtgg 120

cttggaaggc agatggcagc cccgtcaagg cgggagtgga gacgaccaaa ccctccaaac 180

agagcaacaa caagtacgcg gccagcagct acctgagcct gacgcccgag cagtggaagt 240

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cccctacaga atgttca 317

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<211> 116
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<400> 111

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Glu Tyr
20 25 30

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Gln Val
35 40 45

Ser Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Ser Thr Gly Glu Leu Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

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tcttgcgctg cttccggatt cactttctct gagtacgcta tgggttgggt tcgccaagct 120

cctggtaaag gtttggagtg ggtttcttct atcggttctt ctggtggcca gactaagtat 180

gctgactccg ttaaaggtcg cttcactatc tctagagaca acttctaaga atactctcta 240

cttgcagatg aacagcttaa gggctgagga cacggccgtg tattactgtg cgagactctc 300

aacaggggag ctctactggg gccagggcac cctggtcacc gtctcaagc 349

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Ala
20 25 30

Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly 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 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 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
100 105 110

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cagggaaggg gctggagtgg gtctcagcta ttagtggtag tggtggtagc acatactacg 180

cagactccgt gaagggccgg ttcaccatct ccagagacaa ttccaagaac acgctgtatc 240

tgcaaatgaa cagcctgaga gccgaggaca cggccgtata ttactgtgcg aaagatactg 300

gggccagggc accctggtca ccgtctcatc a 331

<210> 115
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<212> PRT
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<220>
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<400> 115

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Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
            20                  25                  30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
        35                  40                  45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
    50                  55                  60

Leu Ser Ser Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
65                  70                  75                  80

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
                85                  90                  95

Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Ala Pro Glu
            100                 105                 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        115                 120                 125

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
    130                 135                 140

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
145                 150                 155                 160

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
                165                 170                 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
            180                 185                 190

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
        195                 200                 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
    210                 215                 220

Pro Gln Val Tyr Thr Leu Pro Pro Ser Pro Arg Glu Pro Gln Val Tyr
225                 230                 235                 240
```

```
Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu
                245                 250                 255

Thr Cys Leu Asx Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
            260                 265                 270

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
        275                 280                 285

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Tyr Val Asp
    290                 295                 300

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
305                 310                 315                 320

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
                325                 330                 335

Gly Lys
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<210> 116
<211> 338
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 116

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Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1               5                   10                  15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
            20                  25                  30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
        35                  40                  45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
    50                  55                  60

Leu Ser Ser Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
65                  70                  75                  80

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg
                85                  90                  95

Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Ala Pro Glu
            100                 105                 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        115                 120                 125
```

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
130 135 140

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
145 150 155 160

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
165 170 175

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
180 185 190

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
210 215 220

Pro Gln Val Tyr Thr Leu Pro Pro Ser Pro Arg Glu Pro Gln Val Tyr
225 230 235 240

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
245 250 255

Thr Cys Leu Asx Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
260 265 270

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
275 280 285

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Tyr Val Asp
290 295 300

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
305 310 315 320

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
325 330 335

Gly Lys

<210> 117
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 117

Val Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Pro Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Val
20 25

<210> 118
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 118

Val Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Pro Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Val Asp Ser Tyr
20 25

<210> 119
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 119

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ala Ile Gly Asp Ser Tyr
20 25

<210> 120
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 120

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Ile
20 25

<210> 121
<211> 29
<212> PRT
<213> Artificial Sequence

<220>

<223> recombinant peptide

<400> 121

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Ser
20 25

<210> 122
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 122

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Val
20 25

<210> 123
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 123

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Leu Gly Asp Ser Tyr
20 25

<210> 124
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 124

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Val Asp Ser Phe
20 25

<210> 125
<211> 29

<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 125

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Asp
20 25

<210> 126
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 126

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu His
20 25

<210> 127
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 127

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Ser
20 25

<210> 128
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 128

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Asp Asp Ser Tyr
20 25

<210> 129
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 129

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Val Glu Leu Asp
20 25

<210> 130
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 130

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Phe
20 25

<210> 131
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 131

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Asp Ser Tyr
20 25

<210> 132
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 132

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Asp Asp Phe Tyr
20 25

<210> 133
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 133

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Phe
20 25

<210> 134
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 134

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu Tyr
20 25

<210> 135
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 135

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Val Asp Ser Tyr
20 25

<210> 136
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 136

Val Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Pro Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Thr Gly Glu Leu Tyr
20 25

<210> 137
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 137

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Ile Arg Glu Leu His
20 25

<210> 138
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 138

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Thr Gly Glu Leu Tyr
20 25

<210> 139
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 139

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Thr Gly Ala Leu Ser
20 25

<210> 140
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 140

Glu Tyr Ala Met Gly Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr
1 5 10 15

Ala Asp Ser Val Lys Gly Leu Ser Thr Gly Glu Leu Tyr
20 25

<210> 141
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 141

Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

<210> 142
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 142

Gly Asp Ser Gln Arg Pro Ser
1 5

<210> 143
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 143

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
1 5 10

<210> 144
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 144

Glu Tyr Ala Met Gly
1 5

<210> 145
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 145

Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 146
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 146

Leu Ser Thr Gly Glu Leu Tyr
1 5

<210> 147
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 147

Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

<210> 148
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 148

Gly Asp Ser Gln Arg Pro Ser
1 5

<210> 149
<211> 10
<212> PRT
<213> Artificial Sequence

<220>

<223> recombinant peptide

<400> 149

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
1 5 10

<210> 150
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 150

Glu Tyr Ala Met Gly
1 5

<210> 151
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 151

Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 152
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 152

Leu Ser Thr Gly Glu Leu Tyr
1 5

<210> 153
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 153

Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

<210> 154
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 154

Gly Asp Ser Gln Arg Pro Ser
1 5

<210> 155
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 155

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
1 5 10

<210> 156
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 156

Val Tyr Ala Met Gly
1 5

<210> 157
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 157

Ser Ile Gly Ser Ser Gly Gly Pro Thr Lys Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 158
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 158

Leu Ser Ile Arg Glu Leu Val
1 5

<210> 159
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 159

Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

<210> 160
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 160

Gly Asp Ser Gln Arg Pro Ser
1 5

<210> 161
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 161

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
1 5 10

<210> 162
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 162

Val Tyr Ala Met Gly
1 5

<210> 163
<211> 17
<212> PRT
<213> Artificial Sequence

<220>

<223> recombinant peptide

<400> 163

Ser Ile Gly Ser Ser Gly Gly Pro Thr Lys Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 164
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 164

Leu Ser Ile Val Asp Ser Tyr
1 5

<210> 165
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 165

Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

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

<220>
<223> recombinant peptide

<400> 166

Gly Asp Ser Gln Arg Pro Ser
1 5

<210> 167
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 167

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
1 5 10

<210> 168
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 168

Glu Tyr Ala Met Gly
1 5

<210> 169
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 169

Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 170
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 170

Leu Ser Leu Gly Asp Ser Tyr
1 5

<210> 171
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 171

Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr Asn Leu Val Ser
1 5 10

<210> 172
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 172

Gly Asp Ser Gln Arg Pro Ser
1 5

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

<220>
<223> recombinant peptide

<400> 173

Cys Ser Tyr Ala Gly Ser Gly Ile Tyr Val
1 5 10

<210> 174
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 174

Glu Tyr Ala Met Gly
1 5

<210> 175
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 175

Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 176
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 176

Leu Ala Ile Gly Asp Ser Tyr
1 5

<210> 177
<211> 111

<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 177

Gln Ser Val Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Lys Tyr Pro Gly Lys Ala Pro Lys Leu
35 40 45

Ile Ile Tyr Gly Asp Ser Gln Arg Pro Ser Gly Leu Ser Ser Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
85 90 95

Gly Ile Tyr Tyr Val Phe Gly Ser Gly Thr Lys Val Thr Val Leu
100 105 110

<210> 178
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 178

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Val Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
85 90 95

Ser Thr Phe Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu
100 105 110

<210> 179
<211> 105
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 179

Ser Pro Lys Ala Asn Pro Thr Val Thr Leu Phe Pro Pro Ser Ser Glu
1 5 10 15

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
20 25 30

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser Pro Val
35 40 45

Lys Ala Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn Asn Lys
50 55 60

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65 70 75 80

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
85 90 95

Lys Thr Val Ala Pro Ala Glu Cys Ser
100 105

<210> 180
<211> 105
<212> PRT
<213> Artificial Sequence

<220>
<223> recombinant peptide

<400> 180

Gly Pro Lys Ala Asn Pro Thr Val Thr Leu Phe Pro Pro Ser Ser Glu
1 5 10 15

Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp Phe
20 25 30

Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Gly Ser Pro Val
35 40 45

Lys Ala Gly Val Glu Thr Thr Lys Pro Ser Lys Gln Ser Asn Asn Lys
50 55 60

Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys Ser
65 70 75 80

His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val Glu
85 90 95

Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 181
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 181

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Val Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
85 90 95

Ser Thr Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu
100 105 110

<210> 182
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 182

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr
20 25 30

```
Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
        35                  40                  45

Met Ile Tyr Gly Asp Ser Gln Arg Pro Ser Gly Val Ser Asn Arg Phe
    50                  55                  60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65                  70                  75                  80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
                85                  90                  95

Gly Ile Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu
            100                 105                 110
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<210> 183
<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 183

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

Ser
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<210> 184
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 184

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 Glu Tyr
20 25 30

Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ser Ile Gly Ser Ser Gly Gly Gln Thr Lys Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Ala Ile Gly Asp Ser Tyr Trp Gly Gln Gly Thr Met Val
100 105 110

Thr Val Ser Ser
115

<210> 185
<211> 111
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 185

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Gly Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Gly Asp Ser Gln Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
85 90 95

Gly Ile Tyr Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu
100 105 110

<210> 186
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 186

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr
20 25 30

Asn Leu Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Val Ser Lys Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
85 90 95

Ser Thr Phe

<210> 187
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 187

Gln Ser Ala Leu Thr Gln Pro Arg Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Val Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
20 25 30

Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Asp Val Ser Lys Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr Ala Gly Ser
85 90 95

Tyr Thr Phe

<210> 188
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 188

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
20 25 30

Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Val Ser Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Thr Ser Ser
85 90 95

Ser Thr Leu

<210> 189
<211> 99
<212> PRT
<213> Artificial Sequence

<220>
<223> Recombinant peptide

<400> 189

Gln Ser Ala Leu Thr Gln Pro Pro Ser Ala Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Val Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
20 25 30

Asn Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Val Ser Lys Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Val Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Ser Tyr Ala Gly Ser
85 90 95

Asn Asn Phe

<210> 190
<211> 99
<212> PRT
<213> Artificial Sequence

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<223> Recombinant peptide

<400> 190

Gln Ser Ala Leu Thr Gln Pro Pro Ser Val Ser Gly Ser Pro Gly Gln
1 5 10 15

Ser Val Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Ser Tyr
20 25 30

Asn Arg Val Ser Trp Tyr Gln Gln Pro Pro Gly Thr Ala Pro Lys Leu
35 40 45

Met Ile Tyr Glu Val Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Ser Leu Tyr Thr Ser Ser
85 90 95

Ser Thr Phe