<110> Regeneron Pharmaceuticals, Inc.

<120> Human Antibodies to Grem1

<130> 9800-WO

<140> TBA
<141> Filed herewith

<160> 595

<170> FastSEQ for Windows Version 4.0

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ccaggcaagg ggctggagtg ggtggcaatt atatggaatg atggaagtaa taaatactat 180
gtagactccg tgaagggccg attcaccatc tccagagcca attccaagaa cacgctgtat 240
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            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Ile Ile Trp Asn Asp Gly Ser Asn Lys Tyr Tyr Val Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Ala 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
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Ala Arg Asp Gly Leu Glu Pro Asp Ala Phe Asp Ile Trp Gly Gln Gly
            100   105   110
Thr Met Val Thr Val Ser Ser
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Ile Trp Asn Asp Gly Ser Asn Lys
 1 5

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ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
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caggggacca agctggagat caaa   324

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            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Trp Pro Pro
                85   90   95
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<210> 13
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<400> 13
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<400> 14
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ccagggaagg ggctggagtg ggtctcatcc attagtagtg gtagtagtta catatactac 180
acagactcag tgaagggccg attcaccatc tccagagaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagattcggg 300
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
            20   25   30
Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ser Ile Ser Ser Gly Ser Ser Tyr Ile Tyr Tyr Thr Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Phe Gly Ser Tyr Tyr Tyr Phe Gly Phe Asp Val Trp Gly Gln
            100   105   110
Gly Thr Thr Val Thr Val Ser Ser
        115   120

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<400> 19
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<210> 20
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<400> 20
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<210> 21
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<400> 21
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<210> 22
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<220>
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<400> 22
Ile Ser Ser Gly Ser Ser Tyr Ile
 1   5

<210> 23
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<400> 23
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<400> 24
Ala Arg Phe Gly Ser Tyr Tyr Tyr Phe Gly Phe Asp Val
 1   5   10

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atcacttgcc gggcgagtca gggcattagc aattatttag cctggtatca gcagaaacca 120
gggaaagttc ctaaactcct gatcttttct gcatccactt tgcaatcagg ggtcccatct 180
cggttcagtg gcagtggatc tgggccagat ttcactctca ccgtcagcag cctgcagcct 240
gaagatgttg caacttatta ctgtcaaaag tataacagtg ccccattcgc tttcggccct 300
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Asn Tyr
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
        35   40   45
Phe Ser Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Pro Asp Phe Thr Leu Thr Val Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Lys Tyr Asn Ser Ala Pro Phe
                85   90   95
Ala Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

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<400> 27
cagggcatta gcaattat 18

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

<210> 29

<211> 9
<212> DNA
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<220>
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<400> 29
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<210> 30
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<400> 30
Ser Ala Ser
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<210> 31
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<220>
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<400> 31
caaaagtata acagtgcccc attcgct 27

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<400> 32
Gln Lys Tyr Asn Ser Ala Pro Phe Ala
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<210> 33
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ccagggaagg ggctggagtg ggtctcatcc ataagtagta gtagtaatta cataaactac 180
gcagactcta ttaagggccg attcaccatc tccagagaca acgccaagaa ctcactatat 240
ctacaaatga acagcctgag agccgaggat acggctgtgt attactgtgc gagagttaat 300

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

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<400> 35
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<210> 36
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<400> 36
Gly Phe Thr Phe Ser Ser Tyr Ser
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<210> 37
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<400> 37
ataagtagta gtagtaatta cata 24

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<400> 38
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1 5

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<212> DNA
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<400> 40
Ala Arg Val Asn Trp Asp Tyr Pro Phe Asp Cys
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<210> 41
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<400> 41
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atcacttgcc gggcgagtca ggacattaga cattatttag tctggtatca gcagaaacca 120
gggaaagttc ctaagctcct gatctatgct gcatccactt tgcaatcagg ggtcccatct 180
cggttcagtg gcagtggatc tgggacagat ttcattctca ccatcagcag cctgcagcct 240
gaagatgttg caacttatta ctgtcaaaag tataacagtg ccccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

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<223> Synthetic

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

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<400> 43
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<210> 44
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<400> 44
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 1   5

<210> 45
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<400> 45
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<210> 46
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<223> Synthetic

<400> 46
Ala Ala Ser
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<210> 47
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<400> 47
caaaagtata acagtgcccc attcact 27

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<400> 48
Gln Lys Tyr Asn Ser Ala Pro Phe Thr
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ccagggaagg ggctggagtg ggtctcagct attagcggaa gtggtggtag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tccagagaca attccaagaa cacactgtat 240
ctgcaaatga atagcctgag agccgaggac acggccatat attattgtgc gaaaggggat 300
atagcagcaa ttgtctttga tgcttttgat atctggggcc aagggacagt ggtcaccgtc 360
tcttca 366

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

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Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Ser 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 Ile Tyr Tyr Cys
                85                  90                  95
Ala Lys Gly Asp Ile Ala Ala Ile Val Phe Asp Ala Phe Asp Ile Trp
            100                 105                 110
Gly Gln Gly Thr Val Val Thr Val Ser Ser
        115                 120
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<400> 51
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<210> 52
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<400> 52
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Gly Phe Thr Phe Ser Ser Tyr Val
 1               5
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<210> 53
<211> 24
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<400> 53
attagcggaa gtggtggtag caca 24

<210> 54
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<400> 56
Ala Lys Gly Asp Ile Ala Ala Ile Val Phe Asp Ala Phe Asp Ile
1 5 10 15

<210> 57
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gggaaagccc ctaagctcct gatctacgat gcatcctatt tggaaacagg ggtcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacag tatgataatc tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa a 321

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

85 90 95

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

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<400> 59
caggacatta gcagctgt 18

<210> 60
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<400> 60
Gln Asp Ile Ser Ser Cys
1 5

<210> 61
<211> 9
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<400> 61
gatgcatcc 9

<210> 62
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<400> 62
Asp Ala Ser
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<400> 63
caacagtatg ataatctccc gtacact 27

<210> 64
<211> 9
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<400> 64
Gln Gln Tyr Asp Asn Leu Pro Tyr Thr
1 5

<210> 65
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<400> 65
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ccagggaagg ggctggagtg ggtctcagct attagcggaa gtggtggtag cacatactac 180
gcagactccg tgaagggccg gtccaccatc tccagagaca attccaagaa cacactgtat 240
ctgcaaatga atagcctgag agccgaggac acggccatat attattgtgc gaaaggggat 300
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tcttca 366

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

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ggattcacct ttagcagcta tgtc 24

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<400> 68
Gly Phe Thr Phe Ser Ser Tyr Val
1 5

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<400> 69
attagcggaa gtggtggtag caca 24

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

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<400> 71
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<213> Artificial Sequence

<220>
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<400> 72
Ala Lys Gly Asp Ile Ala Ala Ile Val Phe Asp Ala Phe Asp Ile
 1   5   10   15

<210> 73
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<212> DNA
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<400> 73
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gggaaagccc ctaagctcct gatctacgat gcatcctatt tggaaacagg ggtcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacag tatgataatc tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa a   321

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<211> 107
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<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 75
caggacatta gcagcgct   18

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

<220>
<223> Synthetic

<400> 76
Gln Asp Ile Ser Ser Ala
 1   5

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

<220>
<223> Synthetic

<400> 77
gatgcatcc   9

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

<220>
<223> Synthetic

<400> 78
Asp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 79
caacagtatg ataatctccc gtacact   27

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

<220>
<223> Synthetic

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

<210> 81
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 81
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtgacaatt atatggcatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagtgtgag agccgaggac acggctgtgt attactgtgc gagagacgaa 300
gatttttttg actactgggg ccagggaacc ctggtcaccg tctcctca 348

<210> 82
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 83
ggattcacct tcagtagcta tggc 24

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

<220>

<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 85
atatggcatg atggaagtaa taaa   24

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

<220>
<223> Synthetic

<400> 86
Ile Trp His Asp Gly Ser Asn Lys
 1   5

<210> 87
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 87
gcgagagacg aagatttttt tgactac   27

<210> 88
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 88
Ala Arg Asp Glu Asp Phe Phe Asp Tyr
 1   5

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

<220>

<223> Synthetic

<400> 89
gaaattgtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aaaagccacc 60
ctctcctgca gggccagtca gagtgttagt atcaacttag cctggtacca acagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tataataact ggcctccgta cacttttggc 300
caggggacta agctggagat caaa 324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 91
cagagtgtta gtatcaac 18

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

<220>
<223> Synthetic

<400> 92
Gln Ser Val Ser Ile Asn
 1   5

<210> 93
<211> 9

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 93
gatgcatcc 9

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

<220>
<223> Synthetic

<400> 94
Asp Ala Ser
 1

<210> 95
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 95
cagcagtata ataactggcc tccgtacact 30

<210> 96
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 96
Gln Gln Tyr Asn Asn Trp Pro Pro Tyr Thr
 1   5   10

<210> 97
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 97
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc cgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgtca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attagcggaa gtggtggtag cacatcctac 180
gcagactccg tgaagggccg gtccaccatc tccagagaca attccaagaa cacactgtat 240
ctgcaaatga atagcctgag agccgaggac acggccgtat attattgtgc gaaaggggat 300
atagcagcaa ttgtttttga tgcttttgat atctggggcc aagggacaat ggtcaccgtc 360

tcttca 366

<210> 98
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 98
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
Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Ser Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Ser 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 Asp Ile Ala Ala Ile Val Phe Asp Ala Phe Asp Ile Trp
            100   105   110
Gly Gln Gly Thr Met Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 99
ggattcacct ttagcagcta tgtc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 101
attagcggaa gtggtggtag caca 24

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

<220>
<223> Synthetic

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

<210> 103
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 103
gcgaaagggg atatagcagc aattgttttt gatgcttttg atatc 45

<210> 104
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 104
Ala Lys Gly Asp Ile Ala Ala Ile Val Phe Asp Ala Phe Asp Ile
1 5 10 15

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

<220>
<223> Synthetic

<400> 105
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattagc aactgtttaa attggtatca acacaaacca 120
gggaaagccc ctaagctcct gatctacgat gcatcctatt tggaaacagg gggcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagaag cctgcagcct 240
gaagattttg caacatatta ctgtcaacag tatgataatc tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa a 321

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 107
caggacatta gcaactgt   18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 109
gatgcatcc   9

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

<220>

<223> Synthetic

<400> 110
Asp Ala Ser
 1

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

<220>
<223> Synthetic

<400> 111
caacagtatg ataatctccc gtacact 27

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

<220>
<223> Synthetic

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

<210> 113
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 113
gaggtgcact tgttggagtc tgggggaggc ttggtacagc cgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgtca tgaactgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attagcggaa gtggtggtag cacatactac 180
ggagactccg tgaagggccg gtccaccatc tccagagaca attccaagaa cacactgtat 240
ctgcaaatga aaagcctgag agccgaggac acggccgtat attattgtgc gaaaggggat 300
atagcaccaa ttgtctttga tgcttttgat atctggggcc aagggacaat ggtcaccgtc 360
tcttca 366

<210> 114
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 114
Glu Val His 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

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Val Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Gly Asp Ser Val
    50                  55                  60
Lys Gly Arg Ser Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Lys Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Gly Asp Ile Ala Pro Ile Val Phe Asp Ala Phe Asp Ile Trp
            100                 105                 110
Gly Gln Gly Thr Met Val Thr Val Ser Ser
        115                 120
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<210> 115
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 115
ggattcacct ttagcagcta tgtc 24

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

<220>
<223> Synthetic

<400> 116
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Gly Phe Thr Phe Ser Ser Tyr Val
 1               5
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<210> 117
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 117
attagcggaa gtggtggtag caca 24

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

<220>
<223> Synthetic

<400> 118
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Ile Ser Gly Ser Gly Gly Ser Thr
 1               5
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<210> 119
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 119
gcgaaagggg atatagcacc aattgtcttt gatgcttttg atatc 45

<210> 120
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 120
Ala Lys Gly Asp Ile Ala Pro Ile Val Phe Asp Ala Phe Asp Ile
1 5 10 15

<210> 121
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 121
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattagc aactgtttaa attggtatca acacaaacca 120
gggaaagccc ctaaactcct gatctacgat gcatcctatt tggaaacagg ggtcccatca 180
aggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacag tatgataatc tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa a 321

<210> 122
<211> 107
<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 Gln Ala Ser Gln Asp Ile Ser Asn Cys
20 25 30
Leu Asn Trp Tyr Gln His Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Tyr Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Asn Leu Pro Tyr

85 90 95

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

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

<220>
<223> Synthetic

<400> 123
caggacatta gcaactgt 18

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

<220>
<223> Synthetic

<400> 124
Gln Asp Ile Ser Asn Cys
1 5

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

<220>
<223> Synthetic

<400> 125
gatgcatcc 9

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

<220>
<223> Synthetic

<400> 126
Asp Ala Ser
1

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

<220>
<223> Synthetic

<400> 127
caacagtatg ataatctccc gtacact 27

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 129
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcggagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcagt aattcctact ggagctggat ccggcagccc 120
ccagggaagg gactggagtg gattgggtat atctattaca gtgggaacac caactacaac 180
ccctccctca agagtcgagt caccatatca gtggacacgt ccaagaacca gttctccctg 240
aagctgagct ctgtgaccgc cgcagacacg gccgtgtatt actgtgcgag agtcaatgac 300
tacagtaatt atgactccta ctattacggt atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

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

<220>
<223> Synthetic

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

<210> 131

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

<220>
<223> Synthetic

<400> 131
ggtggctcca tcagtaattc ctac 24

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

<220>
<223> Synthetic

<400> 132
Gly Gly Ser Ile Ser Asn Ser Tyr
1 5

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

<220>
<223> Synthetic

<400> 133
atctattaca gtgggaacac c 21

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 135
gcgagagtca atgactacag taattatgac tcctactatt acggtatgga cgtc 54

<210> 136
<211> 18
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 137
gccatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtgggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120
gggaaagccc ctaaactcct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa gattacaatt accctccgac gttcggccaa 300
gggaccaagg tggacatcaa g   321

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 139
cagggcatta gaaatgat 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 141
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 142
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 143
ctacaagatt acaattaccc tccgacg 27

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

<220>
<223> Synthetic

<400> 144
Leu Gln Asp Tyr Asn Tyr Pro Pro Thr

1 5

<210> 145
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 145
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
acctgtgcag cgtctggatt caccttcagt agctttggca tgcactgggt ccgacaggct 120
ccaggcaagg ggctggagtg ggtggcaatt atatggtatg atggaagtaa taaatactat 180
gcagattccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg agccgaggac acggctgtgt attactgtgc gagagaggat 300
aactggaccc gggattactt tgactactgg ggccagggaa ccctggtcac cgtctcctca 360

<210> 146
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 147
ggattcacct tcagtagctt tggc 24

<210> 148
<211> 8
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 149
atatggtatg atggaagtaa taaa   24

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

<220>
<223> Synthetic

<400> 150
Ile Trp Tyr Asp Gly Ser Asn Lys
 1   5

<210> 151
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 151
gcgagagagg ataactggac ccgggattac tttgactac   39

<210> 152
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 152
Ala Arg Glu Asp Asn Trp Thr Arg Asp Tyr Phe Asp Tyr
 1   5   10

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

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 153
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc aacttcttag cctggtatca acagaagcct 120
ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cgtagcaact ggcctccgct ccctttcggc 300
ggagggacca aggtggagat caaa 324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 155
cagagtgtta gcaacttc 18

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

<220>
<223> Synthetic

<400> 156
Gln Ser Val Ser Asn Phe
 1   5

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

<220>
<223> Synthetic

<400> 157
gatgcatcc 9

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

<220>
<223> Synthetic

<400> 158
Asp Ala Ser
1

<210> 159
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 159
cagcagcgta gcaactggcc tccgctccct 30

<210> 160
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 160
Gln Gln Arg Ser Asn Trp Pro Pro Leu Pro
1 5 10

<210> 161
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 161
gaggtacaga tggtggagtc tgggggaggc ttggtccagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctagatt cacccttagt aactattgga tgggctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtggccaac ataaagcaag atgggagtga gaaatactat 180

gtggactctg tgaggggccg attcaccatc tccagagaca acgccaagaa ctctctatat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagggattac 300
gatttttgga ggtcctttga ctactggggc cagggaaccc tggtcaccgt cccctca 357

<210> 162
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 163
agattcaccc ttagtaacta ttgg 24

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

<220>
<223> Synthetic

<400> 164
Arg Phe Thr Leu Ser Asn Tyr Trp
 1   5

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

<220>

<223> Synthetic

<400> 165
ataaagcaag atgggagtga gaaa 24

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

<220>
<223> Synthetic

<400> 166
Ile Lys Gln Asp Gly Ser Glu Lys
1 5

<210> 167
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 167
gcgagggatt acgatttttg gaggtccttt gactac 36

<210> 168
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 168
Ala Arg Asp Tyr Asp Phe Trp Arg Ser Phe Asp Tyr
1 5 10

<210> 169
<211> 322
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 169
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60
atcacctgtc gggcgagtca gggtgttagc agctggttag cctggtatca gcagacacca 120
gggaaagccc ctaagctcct gatctatgtt gtatcaagtt tgcaaagtgg ggtcccatca 180
agattcagcg gcagtggatc tgggacagat ttcactctca ccatcaacag cctgcagcct 240
gaagattttg caacttacta ttgtcaacag ggtaacagtt tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa ak 322

<210> 170
<211> 107
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 170
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Val Ser Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Thr Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Val Val 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 Asn Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Asn Ser Phe Pro Tyr
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 171
cagggtgtta gcagctgg   18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 173
gttgtatca   9

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

<220>
<223> Synthetic

<400> 174
Val Val Ser
 1

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

<220>
<223> Synthetic

<400> 175
caacagggta acagtttccc gtacact 27

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

<220>
<223> Synthetic

<400> 176
Gln Gln Gly Asn Ser Phe Pro Tyr Thr
 1   5

<210> 177
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 177
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agctatggca tacactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcaatt ctatggtatg atggaagtaa taaatactat 180
gccgactccg tgaagggccg attcaccatc tccagagaca attccaaaac cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagaaaac 300
tataacgact tgaacttcga tctctggggc cgtggcaccc tggtcactgt ctcctca 357

<210> 178
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 178
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr

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            20                  25                  30
Gly Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ala Ile Leu Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Thr Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Glu Asn Tyr Asn Asp Leu Asn Phe Asp Leu Trp Gly Arg Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
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<210> 179
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 179
ggattcacct tcagtagcta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 181
ctatggtatg atggaagtaa taaa 24

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

<220>
<223> Synthetic

<400> 182
Leu Trp Tyr Asp Gly Ser Asn Lys
 1   5

<210> 183
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 183
gcgagagaaa actataacga cttgaacttc gatctc 36

<210> 184
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 184
Ala Arg Glu Asn Tyr Asn Asp Leu Asn Phe Asp Leu
1 5 10

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

<220>
<223> Synthetic

<400> 185
gacatccagt tgacccagtc tccatccttc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgct gggccagtca gggcattagc agttatttag cctggtatca gcacaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccactt tgcaaagtgg ggtcccatca 180
cggttcagcg gcagtggatc tgggatagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtcaacag cttaaaagtt accctccgtg gacgttcggc 300
caagggacca aggtggaaat caga 324

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

<220>
<223> Synthetic

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

```
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Leu Lys Ser Tyr Pro Pro
                 85                  90                  95
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Arg
            100                 105


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

<220>
<223> Synthetic

<400> 187
cagggcatta gcagttat                                                  18

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

<220>
<223> Synthetic

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


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

<220>
<223> Synthetic

<400> 189
gctgcatcc                                                            9

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

<220>
<223> Synthetic

<400> 190
Ala Ala Ser
 1


<210> 191
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic
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<400> 191
caacagctta aaagttaccc tccgtggacg 30

<210> 192
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 192
Gln Gln Leu Lys Ser Tyr Pro Pro Trp Thr
1 5 10

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

<220>
<223> Synthetic

<400> 193
gaggtgcagc tggtggagtc tggaggaggc ttggtccagc ctgggggtc cctgagactc 60
tcatgtgcag cctctggttt caccgtcagt agcaactaca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagtt atttatagcg gtggtaacac atactacgca 180
gactccgtga agggccgatt caccatctcc agacacaatt ccaagaacac gctgtatctt 240
caaatgaaca gcctgagagc tgaggacacg gccgtgtact actgtgcgcg agatctaggc 300
attaagtctg actattgggg ccagggaacc ctggtcaccg tctcctca 348

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

<220>
<223> Synthetic

<400> 194
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val Ser Ser Asn
20 25 30
Tyr Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Val Ile Tyr Ser Gly Gly Asn Thr Tyr Tyr Ala Asp Ser Val Lys
50 55 60
Gly Arg Phe Thr Ile Ser Arg His Asn Ser Lys Asn Thr Leu Tyr Leu
65 70 75 80
Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95
Arg Asp Leu Gly Ile Lys Ser Asp Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110
Thr Val Ser Ser
115

<210> 195

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

<220>
<223> Synthetic

<400> 195
ggtttcaccg tcagtagcaa ctac 24

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

<220>
<223> Synthetic

<400> 196
Gly Phe Thr Val Ser Ser Asn Tyr
1 5

<210> 197
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 197
atttatagcg gtggtaacac a 21

<210> 198
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 199
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 199
gcgcgagatc taggcattaa gtctgactat 30

<210> 200
<211> 10
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 200
Ala Arg Asp Leu Gly Ile Lys Ser Asp Tyr
 1   5   10

<210> 201
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 201
gaaattgtgc tgactcagtc tccagacttt cagtctgtga ctccaaagga gaaagtcacc 60
atcacctgcc gggccagtca gagcattggt actaccttac actggtacca gcagaaacca 120
gatcagtctc caaaactcct catcaagtat gtttcccagt ccctctcagg ggtcccctcg 180
aggttcagtg gcagtggatc tgggacagat ttcaccctca ccatcaatag cctggaagct 240
gaagatgctg caacgtatta ctgtcatcag agtagtagtt taccgtggac gttcggccaa 300
gggaccaagg tggaaatcaa a   321

<210> 202
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 202
Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1   5   10   15
Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Thr Thr
            20   25   30
Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
        35   40   45
Lys Tyr Val Ser Gln Ser Leu Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65   70   75   80
Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro Trp
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 203
cagagcattg gtactacc   18

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

<220>
<223> Synthetic

<400> 204
Gln Ser Ile Gly Thr Thr
 1   5

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

<220>
<223> Synthetic

<400> 205
tatgtttcc   9

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

<220>
<223> Synthetic

<400> 206
Tyr Val Ser
 1

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

<220>
<223> Synthetic

<400> 207
catcagagta gtagtttacc gtggacg   27

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

<220>
<223> Synthetic

<400> 208
His Gln Ser Ser Ser Leu Pro Trp Thr
 1   5

<210> 209
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 209
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcact aactatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagct atatcatatg atggaactaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagacg attccaagaa cacgctgtgt 240
ctgcaaatga acagcctgag agctgaggac acggctgtgt attactgtgc gaaagagggg 300
actggtgaag gtttctcctt tgactactgg ggccagggaa ccctggtcac cgtctcctca 360

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 211
ggattcacct tcactaacta tggc   24

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

<220>
<223> Synthetic

<400> 212
Gly Phe Thr Phe Thr Asn Tyr Gly
 1   5

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

<220>
<223> Synthetic

<400> 213
atatcatatg atggaactaa taaa   24

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

<220>
<223> Synthetic

<400> 214
Ile Ser Tyr Asp Gly Thr Asn Lys
 1   5

<210> 215
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 215
gcgaaagagg ggactggtga aggtttctcc tttgactac   39

<210> 216
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 216
Ala Lys Glu Gly Thr Gly Glu Gly Phe Ser Phe Asp Tyr
 1   5   10

<210> 217
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 217
gatattgtga tgactcagtc tccactctcc ctgcccgtca cccctggaga gccggcctcc 60
atctcctgca ggtctagtca gagcctccta cattttaatg gatacaacta tttggattgg 120
tacctgcaga agccagggca gtctccacag ctcctgatct atttgggttc taatcgggcc 180
tccggggtcc ctgacaggtt cagtggcagt ggatcaggca cagattttac actgaaagtc 240
agcagagtgg aggctgagga tgttggggtt tattactgca tgcaagctct acaaactcca 300
ttcactttcg gccctgggac caaagtggat atcaaa 336

<210> 218
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 218
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1   5   10   15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Phe
            20   25   30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35   40   45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
    50   55   60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Val
65   70   75   80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
                85   90   95
Leu Gln Thr Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105   110

<210> 219
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 219
cagagcctcc tacattttaa tggatacaac tat 33

<210> 220
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 220
Gln Ser Leu Leu His Phe Asn Gly Tyr Asn Tyr
 1   5   10

<210> 221

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

<220>
<223> Synthetic

<400> 221
ttgggttct 9

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

<220>
<223> Synthetic

<400> 222
Leu Gly Ser
1

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

<220>
<223> Synthetic

<400> 223
atgcaagctc tacaaactcc attcact 27

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

<220>
<223> Synthetic

<400> 224
Met Gln Ala Leu Gln Thr Pro Phe Thr
1 5

<210> 225
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 225
gaggtgcagc tggtggagtc tgggggaggc ttggtacagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt atctacgaca tgcactgggt ccgccaagct 120
acaggaaaag gtctggagtg ggtctcaggt attggtaatg ctggtgacac atactatgca 180
ggctccgtga agggccgatt caccatctcc agagaaaatg ccaagaactc cttgtatctt 240
caaatgaaca gcctgagagc cggggacacg gctgtatatt actgtgcaag agagggtccc 300

aactactact actatggtat ggacgtctgg ggccaaggga ccacggtcac cgtctcctca 360

<210> 226
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 226
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ile Tyr
            20   25   30
Asp Met His Trp Val Arg Gln Ala Thr Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gly Ile Gly Asn Ala Gly Asp Thr Tyr Tyr Ala Gly Ser Val Lys
    50   55   60
Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn Ser Leu Tyr Leu
65   70   75   80
Gln Met Asn Ser Leu Arg Ala Gly Asp Thr Ala Val Tyr Tyr Cys Ala
                85   90   95
Arg Glu Gly Pro Asn Tyr Tyr Tyr Tyr Gly Met Asp Val Trp Gly Gln
            100   105   110
Gly Thr Thr Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 227
ggattcacct tcagtatcta cgac 24

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

<220>
<223> Synthetic

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

<210> 229
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 229
attggtaatg ctggtgacac a 21

<210> 230
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 230
Ile Gly Asn Ala Gly Asp Thr
1 5

<210> 231
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 231
gcaagagagg gtcccaacta ctactactat ggtatggacg tc 42

<210> 232
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 232
Ala Arg Glu Gly Pro Asn Tyr Tyr Tyr Tyr Gly Met Asp Val
1 5 10

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

<220>
<223> Synthetic

<400> 233
gccatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga gatgatttag gctggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa gattacaatt acccgtggac gttcggccaa 300
gggaccaagg tggagatcaa a 321

<210> 234
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 234
Ala Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asp Asp
            20   25   30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Asp Tyr Asn Tyr Pro Trp
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 235
cagggcatta gagatgat   18

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

<220>
<223> Synthetic

<400> 236
Gln Gly Ile Arg Asp Asp
 1   5

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

<220>
<223> Synthetic

<400> 237
gctgcatcc   9

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

<220>
<223> Synthetic

<400> 238
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 239
ctacaagatt acaattaccc gtggacg 27

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

<220>
<223> Synthetic

<400> 240
Leu Gln Asp Tyr Asn Tyr Pro Trp Thr
 1   5

<210> 241
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 241
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg cttctggatt caccttcacc agttatgata tcaactgggt gcgacaggcc 120
actggacagg ggcttgagtg gatgggatgg atgaacccta agagtggtaa cacagactat 180
gcacaaaagt tcctgggcag agtcaccctg accaggaaca cctccaaaag cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt actactgtgc gagaggaaag 300
cagctcgtct ttgactactg gggccaggga accctggtca ccgtctccgc a 351

<210> 242
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 242
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1   5   10   15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Thr Phe Thr Ser Tyr
            20   25   30

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Asp Ile Asn Trp Val Arg Gln Ala Thr Gly Gln Gly Leu Glu Trp Met
        35                  40                  45
Gly Trp Met Asn Pro Lys Ser Gly Asn Thr Asp Tyr Ala Gln Lys Phe
    50                  55                  60
Leu Gly Arg Val Thr Leu Thr Arg Asn Thr Ser Lys Ser Thr Ala Tyr
65                  70                  75                  80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Gly Lys Gln Leu Val Phe Asp Tyr Trp Gly Gln Gly Thr Leu
            100                 105                 110
Val Thr Val Ser Ala
        115
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<210> 243
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 243
ggattcacct tcaccagtta tgat 24

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

<220>
<223> Synthetic

<400> 244
```
Gly Phe Thr Phe Thr Ser Tyr Asp
 1               5
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<210> 245
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 245
atgaacccta agagtggtaa caca 24

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

<220>
<223> Synthetic

<400> 246
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Met Asn Pro Lys Ser Gly Asn Thr
 1               5
```

<210> 247
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 247
gcgagaggaa agcagctcgt ctttgactac 30

<210> 248
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 248
Ala Arg Gly Lys Gln Leu Val Phe Asp Tyr
1 5 10

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

<220>
<223> Synthetic

<400> 249
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgaatca ggacattact aactatttaa attggtatca gaagaaacca 120
gggaaagccc ctaagctcct gatctacgat gcatccaatt tggaaacagg ggtcccatca 180
aggttcagtg gaagtggata tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caacatatta ctgtcaacag tatgataatc tcccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

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

<220>
<223> Synthetic

<400> 250
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Gln Ala Asn Gln Asp Ile Thr Asn Tyr
20 25 30
Leu Asn Trp Tyr Gln Lys Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Tyr Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Asn Leu Pro Phe

85 90 95

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

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

<220>
<223> Synthetic

<400> 251
caggacatta ctaactat 18

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

<220>
<223> Synthetic

<400> 252
Gln Asp Ile Thr Asn Tyr
1 5

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

<220>
<223> Synthetic

<400> 253
gatgcatcc 9

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

<220>
<223> Synthetic

<400> 254
Asp Ala Ser
1

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

<220>
<223> Synthetic

<400> 255
caacagtatg ataatctccc attcact 27

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 257
gaggtgcagc tggtggagtc tgggggaggc ctggtcaagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt tactatagca tgatctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcatcc atcagtagta gtagtagtta catatactac 180
gcagactcag tgaagggccg attcaccatc tccagagaca acgccaagaa atcaatgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaggtagt 300
ggctaccctg actactgggg ccagggaacc ctggtcaccg tctcctca 348

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

<220>
<223> Synthetic

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

<210> 259
<211> 24

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 259
ggattcacct tcagttacta tagc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 261
atcagtagta gtagtagtta cata 24

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

<220>
<223> Synthetic

<400> 262
Ile Ser Ser Ser Ser Ser Tyr Ile
 1 5

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

<220>
<223> Synthetic

<400> 263
gcgagaggta gtggctaccc tgactac 27

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

<220>
<223> Synthetic

<400> 264
Ala Arg Gly Ser Gly Tyr Pro Asp Tyr
 1   5

<210> 265
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 265
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcgagtca gggcattaac aattatttag cctggtatca gcagaaacca 120
gggaaagttc ctaagctcct gatctatgct gcatccactt tacgatcagg ggtcccatct 180
cggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag cctgcagcct 240
gaagatgttg caacttatta ctgtcaaaag tataacagtg ccccattcac tttcggccct 300
gggaccaaag tggatatcaa a   321

<210> 266
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 266
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Asn Asn Tyr
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
        35   40   45
Tyr Ala Ala Ser Thr Leu Arg Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Val Ala Thr Tyr Tyr Cys Gln Lys Tyr Asn Ser Ala Pro Phe
                85   90   95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 267
cagggcatta acaattat   18

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

<220>
<223> Synthetic

<400> 268
Gln Gly Ile Asn Asn Tyr
 1   5

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

<220>
<223> Synthetic

<400> 269
gctgcatcc   9

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

<220>
<223> Synthetic

<400> 270
Ala Ala Ser
 1

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

<220>
<223> Synthetic

<400> 271
caaaagtata acagtgcccc attcact   27

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

<220>
<223> Synthetic

<400> 272
Gln Lys Tyr Asn Ser Ala Pro Phe Thr
 1   5

<210> 273
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 273
gaggtacaga tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacccttagt aactattgga tgggctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtggccaac ataaagcaag atgggagtga gaaatactat 180
gtggactctg tgaggggccg attcaccatc tccagagaca acgccaagaa ctcactgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgttt attactgtgc gagggattac 300
gatttttgga ggtcctttga ctactggggc cagggaaccc tggtcaccgt ctcctca 357

<210> 274
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 275
ggattcaccc ttagtaacta ttgg 24

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

<220>
<223> Synthetic

<400> 276
Gly Phe Thr Leu Ser Asn Tyr Trp
 1   5

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

<220>
<223> Synthetic

<400> 277
ataaagcaag atgggagtga gaaa   24

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

<220>
<223> Synthetic

<400> 278
Ile Lys Gln Asp Gly Ser Glu Lys
 1   5

<210> 279
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 279
gcgagggatt acgatttttg gaggtccttt gactac   36

<210> 280
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

<210> 281
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 281
gacatccaga tgacccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60
atcacctgtc gggcgagtca gggtgttagc agctggttag cctggtatca gcagaaacca 120
gggaaaaccc ctaagctcct gatctatgtt gtatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gccgtggatc tgggacagat ttcactctca ccatcaacag cctgcagcct 240
gaagattttg caacttacta ttgtcaacag ggtaacagtt tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa a 321

<210> 282
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 282
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Val Ser Ser Trp
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Thr Pro Lys Leu Leu Ile
        35   40   45
Tyr Val Val Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Arg Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Gly Asn Ser Phe Pro Tyr
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 283
cagggtgtta gcagctgg 18

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

<220>
<223> Synthetic

<400> 284
Gln Gly Val Ser Ser Trp
 1   5

<210> 285
<211> 9
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 285
gttgtatcc 9

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

<220>
<223> Synthetic

<400> 286
Val Val Ser
1

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

<220>
<223> Synthetic

<400> 287
caacagggta acagtttccc gtacact 27

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

<220>
<223> Synthetic

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

<210> 289
<211> 366
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 289
gaagtgcagc tggtggagtc tgggggaggc ttggtacaga ctggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacgtttgat gattatgcca tgaactgggt ccggcaagct 120
ccagggaagg gcctggagtg ggtctcaggt attagttgga atagtggtaa cataggctat 180
gcggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ttccctgtat 240
ctgcaaatga acagtctgag agctgaggac acggccttgt attactgtgt aaaatatata 300
gggcagcagc tggtacagga ctactttgac tactggggcc agggaaccct ggtcaccgtc 360
tcctca 366

<210> 290
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 291
ggattcacgt ttgatgatta tgcc   24

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

<220>
<223> Synthetic

<400> 292
Gly Phe Thr Phe Asp Asp Tyr Ala
 1   5

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

<220>
<223> Synthetic

<400> 293

attagttgga atagtggtaa cata 24

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

<220>
<223> Synthetic

<400> 294
Ile Ser Trp Asn Ser Gly Asn Ile
1 5

<210> 295
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 295
gtaaaatata tagggcagca gctggtacag gactactttg actac 45

<210> 296
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 296
Val Lys Tyr Ile Gly Gln Gln Leu Val Gln Asp Tyr Phe Asp Tyr
1 5 10 15

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

<220>
<223> Synthetic

<400> 297
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattacc aattatttaa attggtatca gcagagacca 120
gggaaagccc ctaagctcct gatctacgat gcattcaatt tggaaagagg ggtcccatca 180
aggttcagtg gaagtggata tgggacatat tttactttca ccatcagcag cctgcagcct 240
gaagatattg caatatatta ctgtcaacag tatgataatc tcccgctcac tttcggcgga 300
gggaccaagg tggagatcga a 321

<210> 298
<211> 107
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 298
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Thr Asn Tyr
            20   25   30
Leu Asn Trp Tyr Gln Gln Arg Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Tyr Asp Ala Phe Asn Leu Glu Arg Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Tyr Gly Thr Tyr Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Ile Ala Ile Tyr Tyr Cys Gln Gln Tyr Asp Asn Leu Pro Leu
                85   90   95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Glu
            100   105

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

<220>
<223> Synthetic

<400> 299
caggacatta ccaattat   18

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

<220>
<223> Synthetic

<400> 300
Gln Asp Ile Thr Asn Tyr
 1   5

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

<220>
<223> Synthetic

<400> 301
gatgcattc   9

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

<220>
<223> Synthetic

<400> 302
Asp Ala Phe
 1

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

<220>
<223> Synthetic

<400> 303
caacagtatg ataatctccc gctcact 27

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

<220>
<223> Synthetic

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

<210> 305
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 305
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agtcatggca tgcattgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtc atatggtatg atggaagtaa taaataccat 180
gcagactccg tgaagggccg attcaccatc tacagagaca attccaagaa cacgctggat 240
ctgcaaatga acagcctgag agtcgaggac acggctatgt attactgtgc gagagaagac 300
agtaataacg aagatcttga ctattggggc cagggaaccc tggtcaccgt ttcctca 357

<210> 306
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 306
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser His
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

```
Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr His Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Tyr Arg Asp Asn Ser Lys Asn Thr Leu Asp
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Met Tyr Tyr Cys
                85                  90                  95
Ala Arg Glu Asp Ser Asn Asn Glu Asp Leu Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
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<210> 307
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 307
ggattcacct tcagtagtca tggc 24

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

<220>
<223> Synthetic

<400> 308
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Gly Phe Thr Phe Ser Ser His Gly
 1               5
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<210> 309
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 309
atatggtatg atggaagtaa taaa 24

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

<220>
<223> Synthetic

<400> 310
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Ile Trp Tyr Asp Gly Ser Asn Lys
 1               5
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<210> 311

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

<220>
<223> Synthetic

<400> 311
gcgagagaag acagtaataa cgaagatctt gactat 36

<210> 312
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 312
Ala Arg Glu Asp Ser Asn Asn Glu Asp Leu Asp Tyr
 1   5   10

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

<220>
<223> Synthetic

<400> 313
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtttca gcagaaacca 120
ggaaaagccc ctaagcgcct gatctatgtt gcatccaatt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacag catagtaatt accctccgtg gacgttcggc 300
caagggacca aggtggaaat caaa 324

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

<220>
<223> Synthetic

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

100 105

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

<220>
<223> Synthetic

<400> 315
cagggcatta gaaatgat 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 317
gttgcatcc 9

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

<220>
<223> Synthetic

<400> 318
Val Ala Ser
1

<210> 319
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 319
ctacagcata gtaattaccc tccgtggacg 30

<210> 320
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 320
Leu Gln His Ser Asn Tyr Pro Pro Trp Thr
 1   5   10

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

<220>
<223> Synthetic

<400> 321
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt cattttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatggaatg atggaagtaa taaatactct 180
gcagactccg tgaagggccg attcaccgtc tccagggaca attccaagaa caccctgtat 240
ctgcaaatga acagtctgaa agccgaggac acggctgtgt attactgtgc gagagacggg 300
gagtgggagg tttttgacta ctggggccag ggaaccctgg tcaccgtctc ctca   354

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 323
ggattcattt tcagtagcta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 325
atatggaatg atggaagtaa taaa 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 327
gcgagagacg gggagtggga ggtttttgac tac 33

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

<220>

<223> Synthetic

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

<210> 329
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 329
gacatagtga tgacgcagtc tccagtcacc ctgtctgcgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttcga agcaacttag cctggtacca ggagaaacct 120
ggccaggctc ccaggctcct catctatggt gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tataatgact ggcctccgtg gacgttcggc 300
caagggacca aggtggaaat caaa   324

<210> 330
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 330
Asp Ile Val Met Thr Gln Ser Pro Val Thr Leu Ser Ala Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Ser Asn
            20   25   30
Leu Ala Trp Tyr Gln Glu Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asp Trp Pro Pro
                85   90   95
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 331
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 331
cagagtgttc gaagcaac   18

<210> 332
<211> 6

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 333
ggtgcatcc   9

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

<220>
<223> Synthetic

<400> 334
Gly Ala Ser
 1

<210> 335
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 335
cagcagtata atgactggcc tccgtggacg   30

<210> 336
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 336
Gln Gln Tyr Asn Asp Trp Pro Pro Trp Thr
 1   5   10

<210> 337
<211> 372

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 337
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaaag tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatggtga aacaatctac 180
gcacagaagt tccagggcag actcaccatg accgaggaca catctacaga cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagacgat 300
tacgatattt tgacttctta tccttacaat atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

<210> 338
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 338
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1   5   10   15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
            20   25   30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
        35   40   45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
    50   55   60
Gln Gly Arg Leu Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65   70   75   80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Thr Asp Asp Tyr Asp Ile Leu Thr Ser Tyr Pro Tyr Asn Met Asp
            100   105   110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 339
ggatacaccc tcactgaatt atcc 24

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

<220>
<223> Synthetic

<400> 340
Gly Tyr Thr Leu Thr Glu Leu Ser
 1   5

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

<220>
<223> Synthetic

<400> 341
tttgatcctg aagatggtga aaca   24

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

<220>
<223> Synthetic

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

<210> 343
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 343
gcaacagacg attacgatat tttgacttct tatccttaca atatggacgt c   51

<210> 344
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 344
Ala Thr Asp Asp Tyr Asp Ile Leu Thr Ser Tyr Pro Tyr Asn Met Asp
 1   5   10   15
Val

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

<220>

<223> Synthetic

<400> 345
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattaac aactatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag ccttcaacct 240
gaagattttg gaacttacta ctgtcaacag agtgacagta ccccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

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

<220>
<223> Synthetic

<400> 346
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Asn Asn Tyr
20 25 30
Leu Asn 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
Glu Asp Phe Gly Thr Tyr Tyr Cys Gln Gln Ser Asp Ser Thr Pro Phe
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

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

<220>
<223> Synthetic

<400> 347
cagagcatta acaactat 18

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

<220>
<223> Synthetic

<400> 348
Gln Ser Ile Asn Asn Tyr
1 5

<210> 349
<211> 9

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 349
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 350
Ala Ala Ser
1

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

<220>
<223> Synthetic

<400> 351
caacagagtg acagtacccc attcact 27

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

<220>
<223> Synthetic

<400> 352
Gln Gln Ser Asp Ser Thr Pro Phe Thr
1 5

<210> 353
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 353
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa ttattactat 180
gcagcctccg tgaagggccg attcaccatc tccagagaca attccgagaa cacgctgtat 240
ctgcaaatga acagactgag agccgaggac acggctgtgt attactgtgc gagagagggg 300
actggaagta cggaggacta ctttgactac tggggccagg gaaccctggt caccgtctcc 360

tca 363

<210> 354
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 354
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Val Ile Trp Tyr Asp Gly Ser Asn Tyr Tyr Tyr Ala Ala Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Glu Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Arg Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Glu Gly Thr Gly Ser Thr Glu Asp Tyr Phe Asp Tyr Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 355
ggattcacct tcagtagcta tggc 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 357
atatggtatg atggaagtaa ttat 24

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

<220>
<223> Synthetic

<400> 358
Ile Trp Tyr Asp Gly Ser Asn Tyr
 1 5

<210> 359
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 359
gcgagagagg ggactggaag tacggaggac tactttgact ac 42

<210> 360
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 360
Ala Arg Glu Gly Thr Gly Ser Thr Glu Asp Tyr Phe Asp Tyr
 1 5 10

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

<220>
<223> Synthetic

<400> 361
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcttcttag cctggtatca acagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccaaca gggccactgg catcccagtc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cgtagcaact ggcctccgta cacttttggc 300
caggggacca agctggagat caaa 324

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 363
cagagtgtta gcagcttc 18

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

<220>
<223> Synthetic

<400> 364
Gln Ser Val Ser Ser Phe
 1   5

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

<220>
<223> Synthetic

<400> 365
gatgcatcc 9

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

<220>

<223> Synthetic

<400> 366
Asp Ala Ser
 1

<210> 367
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 367
cagcagcgta gcaactggcc tccgtacact 30

<210> 368
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 368
Gln Gln Arg Ser Asn Trp Pro Pro Tyr Thr
 1   5   10

<210> 369
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 369
caggtccagc tggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggga aacaatctac 180
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga aacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagacgat 300
tacgatattt tgactgatta tccttacaat atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

<210> 370
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 370
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1   5   10   15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
            20   25   30

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Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
        35                  40                  45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
    50                  55                  60
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Glu Thr Ala Tyr
65                  70                  75                  80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Thr Asp Asp Tyr Asp Ile Leu Thr Asp Tyr Pro Tyr Asn Met Asp
            100                 105                 110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115                 120
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<210> 371
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 371
ggatacaccc tcactgaatt atcc 24

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

<220>
<223> Synthetic

<400> 372
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Gly Tyr Thr Leu Thr Glu Leu Ser
 1               5
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<210> 373
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 373
tttgatcctg aagatgggga aaca 24

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

<220>
<223> Synthetic

<400> 374
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Phe Asp Pro Glu Asp Gly Glu Thr
 1               5
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<210> 375
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 375
gcaacagacg attacgatat tttgactgat tatccttaca atatggacgt c 51

<210> 376
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 376
Ala Thr Asp Asp Tyr Asp Ile Leu Thr Asp Tyr Pro Tyr Asn Met Asp
 1   5   10   15
Val

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

<220>
<223> Synthetic

<400> 377
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattagc agctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagatcttg caacttacta ctgtcaacag agttccagta ccccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

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

<220>
<223> Synthetic

<400> 378
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr
            20   25   30
Leu Asn 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
Glu Asp Leu Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Ser Thr Pro Phe
85 90 95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105

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

<220>
<223> Synthetic

<400> 379
cagagcatta gcagctat 18

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

<220>
<223> Synthetic

<400> 380
Gln Ser Ile Ser Ser Tyr
1 5

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

<220>
<223> Synthetic

<400> 381
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 382
Ala Ala Ser
1

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

<220>

<223> Synthetic

<400> 383
caacagagtt ccagtacccc attcact 27

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 385
caggtgcagc tggtggagtc ggggggaggc ttggtcaaac ctggagggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt gactactaca tgagctggat ccgccaggct 120
ccagggaagg ggctggagtg ggtttcatac attggtactc gtggtagttc catatactac 180
gcagactctt tgaagggccg attcaccatc tccagggaca acgccaagaa ctcactatat 240
ctgcaaatga acagcctgag agccgaggac acggccgtgt attactgtgc gagagaccca 300
actggaacct cctactttga ctactggggc cagggtaccc tggtcaccgt ctcctca 357

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

<220>
<223> Synthetic

<400> 386
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 Thr Arg Gly Ser Ser Ile Tyr Tyr Ala Asp Ser Leu
    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 Pro Thr Gly Thr Ser Tyr Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

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

<220>
<223> Synthetic

<400> 387
ggattcacct tcagtgacta ctac 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 389
attggtactc gtggtagttc cata 24

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

<220>
<223> Synthetic

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

<210> 391
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 391
gcgagagacc caactggaac ctcctacttt gactac 36

<210> 392
<211> 12

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 392
Ala Arg Asp Pro Thr Gly Thr Ser Tyr Phe Asp Tyr
 1   5   10

<210> 393
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 393
gaaatagtga tgacacagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtcttagc agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catctatggt gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcaacag cctgcagtct 240
gaagactttg cagtttatta ctgtcagcag tataataact ggcctccgta cacttttggc 300
caggggacca agctggagat caaa   324

<210> 394
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 394
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Leu Ser Ser Asn
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Asn Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Pro
                85   90   95
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 395

cagagtctta gcagcaac 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 397
ggtgcatcc 9

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

<220>
<223> Synthetic

<400> 398
Gly Ala Ser
1

<210> 399
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 399
cagcagtata ataactggcc tccgtacact 30

<210> 400
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 401
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agttatggaa tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcatcatc tccagagaca attccaagaa catgatgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagaagat 300
aactggaact acgcctttga ctactggggc cagggaaccc tggtcaccgt ctcctca 357

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

<220>
<223> Synthetic

<400> 402
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Ile Ile Ser Arg Asp Asn Ser Lys Asn Met Met Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Arg Glu Asp Asn Trp Asn Tyr Ala Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

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

<220>
<223> Synthetic

<400> 403
ggattcacct tcagtagtta tgga 24

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 405
atatggtatg atggaagtaa taaa   24

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

<220>
<223> Synthetic

<400> 406
Ile Trp Tyr Asp Gly Ser Asn Lys
 1   5

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

<220>
<223> Synthetic

<400> 407
gcgagagaag ataactggaa ctacgccttt gactac   36

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

<220>
<223> Synthetic

<400> 408
Ala Arg Glu Asp Asn Trp Asn Tyr Ala Phe Asp Tyr
 1   5   10

<210> 409
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 409
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtattagc agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catctatgat tcatccacca gggccactgg aatcccagcc 180
aggttcagtg gcagtgggtc tggaacacaa ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cactttatta ctgtcagcag tatagtaact ggcctccatt cactttcggc 300
cctgggacca aagtggatat caaa 324

<210> 410
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 410
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Asn
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Asp Ser Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Leu Tyr Tyr Cys Gln Gln Tyr Ser Asn Trp Pro Pro
                85   90   95
Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

<210> 411
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 411
cagagtatta gcagcaac 18

<210> 412
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 412
Gln Ser Ile Ser Ser Asn
 1   5

<210> 413

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

<220>
<223> Synthetic

<400> 413
gattcatcc 9

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

<220>
<223> Synthetic

<400> 414
Asp Ser Ser
1

<210> 415
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 415
cagcagtata gtaactggcc tccattcact 30

<210> 416
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 416
Gln Gln Tyr Ser Asn Trp Pro Pro Phe Thr
1 5 10

<210> 417
<211> 372
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 417
caggtccagc tggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatggtga gacaatctac 180
gcacagaagt tccaggacag agtcaccatg accgaggaca catctacaga cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgt aacagacgat 300

tacgaaattt tgcctgaata tccttacaac atggacgtct ggggccaagg gaccacggtc 360
accgtctcct ca 372

<210> 418
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 418
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1   5   10   15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
            20   25   30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
        35   40   45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
    50   55   60
Gln Asp Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65   70   75   80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Val Thr Asp Asp Tyr Glu Ile Leu Pro Glu Tyr Pro Tyr Asn Met Asp
            100   105   110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 419
ggatacaccc tcactgaatt atcc 24

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

<220>
<223> Synthetic

<400> 420
Gly Tyr Thr Leu Thr Glu Leu Ser
 1   5

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

<220>
<223> Synthetic

<400> 421
tttgatcctg aagatggtga gaca 24

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

<220>
<223> Synthetic

<400> 422
Phe Asp Pro Glu Asp Gly Glu Thr
1 5

<210> 423
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 423
gtaacagacg attacgaaat tttgcctgaa tatccttaca acatggacgt c 51

<210> 424
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 424
Val Thr Asp Asp Tyr Glu Ile Leu Pro Glu Tyr Pro Tyr Asn Met Asp
1 5 10 15
Val

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

<220>
<223> Synthetic

<400> 425
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gagcattagt acctatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatccgcag tctgcaacct 240
gaagattttg caacttacta ctgtcaacag agtcacatta ccccattcac tttcggccct 300
gggaccaaag tggatatcaa a 321

<210> 426
<211> 107

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 426
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 Ser Thr Tyr
            20   25   30
Leu Asn 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 Arg Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser His Ile Thr Pro Phe
                85   90   95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

<210> 427
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 427
cagagcatta gtacctat   18

<210> 428
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 428
Gln Ser Ile Ser Thr Tyr
 1   5

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

<220>
<223> Synthetic

<400> 429
gctgcatcc   9

<210> 430
<211> 3
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 430
Ala Ala Ser
 1

<210> 431
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 431
caacagagtc acattacccc attcact 27

<210> 432
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 432
Gln Gln Ser His Ile Thr Pro Phe Thr
 1   5

<210> 433
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 433
gaggtgcagc tggtggagtc tgggggaggc ttggtccagc ctgggggtc cctgagactc 60
tcctgtgcag cctctggatt cacgtttaat agcttttgga tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtggccaac ataaagcagg atggaagtga gaaatactat 180
gtggactctg tgaagggccg attcaccatc tccagagaca acgccaagaa ctcagtgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgttt attactgtgc gagagatctg 300
gtaacttctt ttgactattg gggccaggga accctggtca ccgtctcctc a 351

<210> 434
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 434
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Ser Phe
            20                  25                  30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ala Asn Ile Lys Gln Asp Gly Ser Glu Lys Tyr Tyr Val Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Val Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Asp Leu Val Thr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Leu
            100                 105                 110
Val Thr Val Ser Ser
        115
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<210> 435
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 435
ggattcacgt ttaatagctt ttgg 24

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

<220>
<223> Synthetic

<400> 436
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Gly Phe Thr Phe Asn Ser Phe Trp
 1               5
```

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

<220>
<223> Synthetic

<400> 437
ataaagcagg atggaagtga gaaa 24

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

<220>
<223> Synthetic

<400> 438
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Ile Lys Gln Asp Gly Ser Glu Lys
```

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 1               5


<210> 439
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 439
gcgagagatc tggtaacttc ttttgactat                                      30

<210> 440
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 440
Ala Arg Asp Leu Val Thr Ser Phe Asp Tyr
 1               5                   10


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

<220>
<223> Synthetic

<400> 441
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc aggcgagtca ggacattaac aactatttaa attggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctacgat gcatcctatt tggaaacagg ggtcccatca 180
gggttcagtg gaagtggatc tgggacagat tttactttca ccatcagcag cctgcagcct 240
gaggatattg caacatatta ctgtcaacag tatgatagtc tcccgtacac ttttggccag 300
gggaccaagc tggagatcaa a                                            321

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

<220>
<223> Synthetic

<400> 442
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1               5                   10                  15
Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Asn Asn Tyr
            20                  25                  30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Tyr Asp Ala Ser Tyr Leu Glu Thr Gly Val Pro Ser Gly Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
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65 70 75 80
Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp Ser Leu Pro Tyr
85 90 95
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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

<220>
<223> Synthetic

<400> 443
caggacatta acaactat 18

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

<220>
<223> Synthetic

<400> 444
Gln Asp Ile Asn Asn Tyr
1 5

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

<220>
<223> Synthetic

<400> 445
gatgcatcc 9

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

<220>
<223> Synthetic

<400> 446
Asp Ala Ser
1

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

<220>

<223> Synthetic

<400> 447
caacagtatg atagtctccc gtacact 27

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

<220>
<223> Synthetic

<400> 448
Gln Gln Tyr Asp Ser Leu Pro Tyr Thr
 1   5

<210> 449
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 449
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcgatt atatggtatg atggaagtaa tagatactat 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaggaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gcgagacgag 300
tacggtgact acgactaccc ttttgactac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 450
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 451
ggattcacct tcagtagcta tggc 24

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

<220>
<223> Synthetic

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

<210> 453
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 453
atatggtatg atggaagtaa taga 24

<210> 454
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 454
Ile Trp Tyr Asp Gly Ser Asn Arg
 1 5

<210> 455
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 455
gcgcgagacg agtacggtga ctacgactac ccttttgact ac 42

<210> 456

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

<220>
<223> Synthetic

<400> 456
Ala Arg Asp Glu Tyr Gly Asp Tyr Asp Tyr Pro Phe Asp Tyr
 1   5   10

<210> 457
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 457
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtttca gcagaaacca 120
gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacag cataatactt accctccatt cactttcggc 300
cctgggacca aagtggatat caaa   324

<210> 458
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 458
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
            20   25   30
Leu Gly Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Tyr Pro Pro
                85   90   95
Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 459
cagggcatta gaaatgat 18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 461
gctgcatcc 9

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

<220>
<223> Synthetic

<400> 462
Ala Ala Ser
 1

<210> 463
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 463
ctacagcata atacttaccc tccattcact 30

<210> 464
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 464
Leu Gln His Asn Thr Tyr Pro Pro Phe Thr

```
 1               5                  10


<210> 465
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 465
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt aactatggca tgcactgggt ccgccaggtt 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagtgtgag agccgaggac acggctgtat actactgtgc gagagatgac 300
tacggtgact ccccggggtt tgactactgg ggccagggaa ccctggtcac cgtctcctca 360


<210> 466
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 466
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
            20                  25                  30
Gly Met His Trp Val Arg Gln Val Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Val Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Asp Asp Tyr Gly Asp Ser Pro Gly Phe Asp Tyr Trp Gly Gln
            100                 105                 110
Gly Thr Leu Val Thr Val Ser Ser
        115                 120


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

<220>
<223> Synthetic

<400> 467
ggattcacct tcagtaacta tggc                                          24

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

<220>
<223> Synthetic

<400> 468
Gly Phe Thr Phe Ser Asn Tyr Gly
 1   5

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

<220>
<223> Synthetic

<400> 469
atatggtatg atggaagtaa taaa   24

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

<220>
<223> Synthetic

<400> 470
Ile Trp Tyr Asp Gly Ser Asn Lys
 1   5

<210> 471
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 471
gcgagagatg actacggtga ctccccgggg tttgactac   39

<210> 472
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 472
Ala Arg Asp Asp Tyr Gly Asp Ser Pro Gly Phe Asp Tyr
 1   5   10

<210> 473
<211> 324
<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 473
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcagcttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcgg cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tataataact ggcctccgtg gacgttcggc 300
caagggacca aggtggaaat caaa 324

<210> 474
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 474
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Asp Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Gly Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Asn Trp Pro Pro
                85   90   95
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 475
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 475
cagagtgtta gcagcagc 18

<210> 476
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 476
Gln Ser Val Ser Ser Ser
 1   5

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

<220>
<223> Synthetic

<400> 477
gatgcatcc 9

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

<220>
<223> Synthetic

<400> 478
Asp Ala Ser
 1

<210> 479
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 479
cagcagtata ataactggcc tccgtggacg 30

<210> 480
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 480
Gln Gln Tyr Asn Asn Trp Pro Pro Trp Thr
 1   5   10

<210> 481
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 481
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt aactatggca tgcattgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactctg tgaagggccg attcaccatc tccagagaca attccaggaa aacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctattt attactgtac gagagacgac 300
tacggtgact acgactaccc ttttgactac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 482
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 482
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Arg Lys Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
                85   90   95
Thr Arg Asp Asp Tyr Gly Asp Tyr Asp Tyr Pro Phe Asp Tyr Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

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

<220>
<223> Synthetic

<400> 483
ggattcacct tcagtaacta tggc 24

<210> 484
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 485
atatggtatg atggaagtaa taaa 24

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

<220>
<223> Synthetic

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

<210> 487
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 487
acgagagacg actacggtga ctacgactac ccttttgact ac 42

<210> 488
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 488
Thr Arg Asp Asp Tyr Gly Asp Tyr Asp Tyr Pro Phe Asp Tyr
1 5 10

<210> 489
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 489
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120
gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcactggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacaa cataatagtt accctccatt cactttcggc 300
cctgggacca aagtggatat caaa 324

<210> 490
<211> 108

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 490
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
            20   25   30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Thr Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro Pro
                85   90   95
Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

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

<220>
<223> Synthetic

<400> 491
cagggcatta gaaatgat   18

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

<220>
<223> Synthetic

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

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

<220>
<223> Synthetic

<400> 493
gctgcatcc   9

<210> 494
<211> 3
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 494
Ala Ala Ser
 1

<210> 495
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 495
ctacaacata atagttaccc tccattcact 30

<210> 496
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 496
Leu Gln His Asn Ser Tyr Pro Pro Phe Thr
 1   5   10

<210> 497
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 497
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaagtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt cgttatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgacgac acggctatgt attactgtgc gagagatgac 300
tacggtgact ccccggggtt tgacttctgg ggccagggaa ccctggtcac cgtctcctca 360

<210> 498
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 498
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Lys

```
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg Tyr
            20                  25                  30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys 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 Asp Asp Thr Ala Met Tyr Tyr Cys
                85                  90                  95
Ala Arg Asp Asp Tyr Gly Asp Ser Pro Gly Phe Asp Phe Trp Gly Gln
            100                 105                 110
Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 499
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 499
ggattcacct tcagtcgtta tggc 24

<210> 500
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 500
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Gly Phe Thr Phe Ser Arg Tyr Gly
 1               5
```

<210> 501
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 501
atatggtatg atggaagtaa taaa 24

<210> 502
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 502

```
Ile Trp Tyr Asp Gly Ser Asn Lys
 1               5
```

<210> 503
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 503
gcgagagatg actacggtga ctccccgggg tttgacttc 39

<210> 504
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 504

```
Ala Arg Asp Asp Tyr Gly Asp Ser Pro Gly Phe Asp Phe
 1               5                  10
```

<210> 505
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 505
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catctatgat gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcactgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagactttg cactttatta ctgtcagcag tatgatgact ggcctccgtg gacgttcggc 300
caagggacca aggtggaaat caaa 324

<210> 506
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 506

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

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


<210> 507
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 507
cagagtgtta gcagcaac                                                  18

<210> 508
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 508
Gln Ser Val Ser Ser Asn
 1               5


<210> 509
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 509
gatgcatcc                                                            9

<210> 510
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 510
Asp Ala Ser
 1


<210> 511
<211> 30
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Synthetic

<400> 511
cagcagtatg atgactggcc tccgtggacg 30

<210> 512
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 512
Gln Gln Tyr Asp Asp Trp Pro Pro Trp Thr
 1   5   10

<210> 513
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 513
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt aactatggca tgcactgggt ccgccaggct 120
ccaggcaggg ggctggagtg ggtggcagtt atatggtttg atggaagtaa caaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagtctgag atccgaggac acggctgtgt attactgtac gagagacgac 300
tacggtgact acgactaccc ttttgactac tggggccagg gaaccctggt caccgtctcc 360
tca 363

<210> 514
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 514
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Arg Gly Leu Glu Trp Val
        35   40   45
Ala Val Ile Trp Phe 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
Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Thr Arg Asp Asp Tyr Gly Asp Tyr Asp Tyr Pro Phe Asp Tyr Trp Gly
            100   105   110
Gln Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 515
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 515
ggattcacct tcagtaacta tggc 24

<210> 516
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 516
Gly Phe Thr Phe Ser Asn Tyr Gly
1 5

<210> 517
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 517
atatggtttg atggaagtaa caaa 24

<210> 518
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 518
Ile Trp Phe Asp Gly Ser Asn Lys
1 5

<210> 519
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 519
acgagagacg actacggtga ctacgactac ccttttgact ac 42

<210> 520
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 520
Thr Arg Asp Asp Tyr Gly Asp Tyr Asp Tyr Pro Phe Asp Tyr
 1   5   10

<210> 521
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 521
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120
gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc cgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacag tataatactt accctccatt cactttcggc 300
cctgggacca aagtggatat caaa   324

<210> 522
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 522
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
            20   25   30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
        35   40   45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Tyr Asn Thr Tyr Pro Pro
                85   90   95
Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
            100   105

<210> 523
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 523
cagggcatta gaaatgat 18

<210> 524
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 524
Gln Gly Ile Arg Asn Asp
 1   5

<210> 525
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 525
gctgcatcc 9

<210> 526
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 526
Ala Ala Ser
 1

<210> 527
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 527
ctacagtata atacttaccc tccattcact 30

<210> 528
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 528

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Leu Gln Tyr Asn Thr Tyr Pro Pro Phe Thr
 1               5                  10


<210> 529
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 529
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt gcctatggca tgcactgggt ccgccagggt 120
ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga atagactgag agccgaggac acggctgtgt attactgtgc gagagatgac 300
tacggtgact ccccggggtt tgaccactgg ggccagggaa ccctggtcac tgtctcctca 360


<210> 530
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 530
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
            20                  25                  30
Gly Met His Trp Val Arg Gln Gly Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ala Val Ile Trp Tyr Asp Gly Ser Asn 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 Arg Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Arg Asp Asp Tyr Gly Asp Ser Pro Gly Phe Asp His Trp Gly Gln
            100                 105                 110
Gly Thr Leu Val Thr Val Ser Ser
        115                 120


<210> 531
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 531
ggattcacct tcagtgccta tggc                                          24

<210> 532
<211> 8
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<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 532
Gly Phe Thr Phe Ser Ala Tyr Gly
 1   5

<210> 533
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 533
atatggtatg atggaagtaa taaa   24

<210> 534
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 534
Ile Trp Tyr Asp Gly Ser Asn Lys
 1   5

<210> 535
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 535
gcgagagatg actacggtga ctccccgggg tttgaccac   39

<210> 536
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 536
Ala Arg Asp Asp Tyr Gly Asp Ser Pro Gly Phe Asp His
 1   5   10

<210> 537
<211> 324

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 537
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcgagttag cctggtatca gcagaaacct 120
ggccaggctc ccaggctcct cttgtatggt gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tatagtaact ggcctccgtg gacgttcggc 300
caagggacca aggtggaaat caaa 324

<210> 538
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 538
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Glu
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Leu
        35   40   45
Tyr Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Asn Trp Pro Pro
                85   90   95
Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100   105

<210> 539
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 539
cagagtgtta gcagcgag 18

<210> 540
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 540
Gln Ser Val Ser Ser Glu
 1   5

<210> 541
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 541
ggtgcatcc 9

<210> 542
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 542
Gly Ala Ser
1

<210> 543
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 543
cagcagtata gtaactggcc tccgtggacg 30

<210> 544
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 544
Gln Gln Tyr Ser Asn Trp Pro Pro Trp Thr
1 5 10

<210> 545
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 545
caggtgcagc tggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt acctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcaatt atatggtatg atggaagtaa ttactactat 180
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagagaggac 300
aggaatgatg tttttgatat ctggggccaa gggacaatgg tcaccgtctc ttca 354

<210> 546
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 546
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Ile Ile Trp Tyr Asp Gly Ser Asn Tyr 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 Glu Asp Arg Asn Asp Val Phe Asp Ile Trp Gly Gln Gly Thr
            100   105   110
Met Val Thr Val Ser Ser
        115

<210> 547
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 547
ggattcacct tcagtaccta tggc 24

<210> 548
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 548
Gly Phe Thr Phe Ser Thr Tyr Gly
 1   5

<210> 549
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 549
atatggtatg atggaagtaa ttac 24

<210> 550
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 550
Ile Trp Tyr Asp Gly Ser Asn Tyr
1 5

<210> 551
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 551
gcgagagagg acaggaatga tgtttttgat atc 33

<210> 552
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 552
Ala Arg Glu Asp Arg Asn Asp Val Phe Asp Ile
1 5 10

<210> 553
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 553
gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtgttagc agcttcttag cctggtacca acagaaacct 120
ggccaggctc ccaggctcct catctatgat tcatccaaca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctagagcct 240
gaagattttg cagtttatta ctgtcagcag cttagcaact ggcctccgat caccttcggc 300
caagggacac gactggagat taaa 324

<210> 554
<211> 108

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 554
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Phe
            20   25   30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Asp Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Leu Ser Asn Trp Pro Pro
                85   90   95
Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
            100   105

<210> 555
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 555
cagagtgtta gcagcttc   18

<210> 556
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 556
Gln Ser Val Ser Ser Phe
 1   5

<210> 557
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 557
gattcatcc   9

<210> 558
<211> 3
<212> PRT

<213> Artificial Sequence

<220>
<223> Synthetic

<400> 558
Asp Ser Ser
 1

<210> 559
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 559
cagcagctta gcaactggcc tccgatcacc 30

<210> 560
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 560
Gln Gln Leu Ser Asn Trp Pro Pro Ile Thr
 1   5   10

<210> 561
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 561
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctctggtgg ctccatcagc agtggtggtt actactggac ctggatccgc 120
cagcacccag ggaagggcct ggagtggatt gggtacatct attacagtgg gagcacctac 180
tacaacccgt ccctcaagag tcgagttacc atgtcagtag acacgtctaa gaaccagttc 240
tccctgaagc tgagctctgt gactgccgcg gacacggccg tgtattactg tgcgagacta 300
ctggattttg actactgggg ccagggaacc ctggtcactg tctcctca 348

<210> 562
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 562
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1   5   10   15

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Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
            20                  25                  30
Gly Tyr Tyr Trp Thr Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
        35                  40                  45
Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser
    50                  55                  60
Leu Lys Ser Arg Val Thr Met Ser Val Asp Thr Ser Lys Asn Gln Phe
65                  70                  75                  80
Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
                85                  90                  95
Cys Ala Arg Leu Leu Asp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
            100                 105                 110
Thr Val Ser Ser
        115
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<210> 563
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 563
ggtggctcca tcagcagtgg tggttactac 30

<210> 564
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 564
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Gly Gly Ser Ile Ser Ser Gly Gly Tyr Tyr
 1               5                  10
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<210> 565
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 565
atctattaca gtgggagcac c 21

<210> 566
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 566
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Ile Tyr Tyr Ser Gly Ser Thr
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 1               5


<210> 567
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 567
gcgagactac tggattttga ctac                                          24

<210> 568
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 568
Ala Arg Leu Leu Asp Phe Asp Tyr
 1               5


<210> 569
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 569
gccatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcact 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tggcagagat ttcactctca ccatcagcag cctgcagcct 240
gaagattttg cctcttatta ctgtctacaa gatcacaatt acccgctcac tttcggcgga 300
gggaccaagg tggagatcaa a                                             321

<210> 570
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 570
Ala Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1               5                  10                  15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
            20                  25                  30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys 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 Arg Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
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65 70 75 80
Glu Asp Phe Ala Ser Tyr Tyr Cys Leu Gln Asp His Asn Tyr Pro Leu
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 571
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 571
cagggcatta gaaatgat 18

<210> 572
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 572
Gln Gly Ile Arg Asn Asp
1 5

<210> 573
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 573
gctgcatcc 9

<210> 574
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 574
Ala Ala Ser
1

<210> 575
<211> 27
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic

<400> 575
ctacaagatc acaattaccc gctcact 27

<210> 576
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 576
Leu Gln Asp His Asn Tyr Pro Leu Thr
 1   5

<210> 577
<211> 348
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 577
caggtgcagc tggtggagtc tgggggagac gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120
ccaggcaagg ggctggaatg ggtggcaatt atatggaatg atggaagtaa taaatactat 180
acagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cactctatat 240
ctgcaaatga atggcctgag agccgaggac acggctatat attactgtgc gcgagatcag 300
gaccagtttg actactgggg ccagggaacc ctggtcaccg tctcctca 348

<210> 578
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 578
Gln Val Gln Leu Val Glu Ser Gly Gly Asp Val Val Gln Pro Gly Arg
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
            20   25   30
Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ala Ile Ile Trp Asn Asp Gly Ser Asn Lys Tyr Tyr Thr Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Gly Leu Arg Ala Glu Asp Thr Ala Ile Tyr Tyr Cys
                85   90   95
Ala Arg Asp Gln Asp Gln Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
            100   105   110
Thr Val Ser Ser
        115

<210> 579
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 579
ggattcacct tcagtagcta tggc 24

<210> 580
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 580
Gly Phe Thr Phe Ser Ser Tyr Gly
 1 5

<210> 581
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 581
atatggaatg atggaagtaa taaa 24

<210> 582
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 582
Ile Trp Asn Asp Gly Ser Asn Lys
 1 5

<210> 583
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 583
gcgcgagatc aggaccagtt tgactac 27

<210> 584
<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 584
Ala Arg Asp Gln Asp Gln Phe Asp Tyr
 1   5

<210> 585
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 585
gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagtattagc acaaacttag cctggtaccg gcagaaacct 120
ggccaggctc cccggctcct catctatgat gcatccacca gggccactgg tatcccagcc 180
aggttcagtg gcagtgggtc tgggacagac ttcactctca ccatcagcag cctgcagtct 240
gaagattttg cagtttatta ctgtcagcag tatagtaact ggcctccgta cacttttggc 300
caggggacca agctggagat caaa   324

<210> 586
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 586
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1   5   10   15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Thr Asn
            20   25   30
Leu Ala Trp Tyr Arg Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
        35   40   45
Tyr Asp Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
65   70   75   80
Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Asn Trp Pro Pro
                85   90   95
Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
            100   105

<210> 587
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 587

cagagtatta gcacaaac 18

<210> 588
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 588
Gln Ser Ile Ser Thr Asn
1 5

<210> 589
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 589
gatgcatcc 9

<210> 590
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 590
Asp Ala Ser
1

<210> 591
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 591
cagcagtata gtaactggcc tccgtacact 30

<210> 592
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic

<400> 592
Gln Gln Tyr Ser Asn Trp Pro Pro Tyr Thr
1 5 10

<210> 593
<211> 555
<212> DNA
<213> Homo sapiens

<400> 593
atgagccgca cagcctacac ggtgggagcc ctgcttctcc tcttggggac cctgctgccg 60
gctgctgaag ggaaaaagaa agggtcccaa ggtgccatcc ccccgccaga caaggcccag 120
cacaatgact cagagcagac tcagtcgccc cagcagcctg gctccaggaa ccgggggcgg 180
ggccaagggc ggggcactgc catgcccggg gaggaggtgc tggagtccag ccaagaggcc 240
ctgcatgtga cggagcgcaa atacctgaag cgagactggt gcaaaaccca gccgcttaag 300
cagaccatcc acgaggaagg ctgcaacagt cgcaccatca tcaaccgctt ctgttacggc 360
cagtgcaact ctttctacat ccccaggcac atccggaagg aggaaggttc ctttcagtcc 420
tgctccttct gcaagcccaa gaaattcact accatgatgg tcacactcaa ctgccctgaa 480
ctacagccac ctaccaagaa gaagagagtc acacgtgtga agcagtgtcg ttgcatatcc 540
atcgatttgg attaa 555

<210> 594
<211> 184
<212> PRT
<213> Homo sapiens

<400> 594
Met Ser Arg Thr Ala Tyr Thr Val Gly Ala Leu Leu Leu Leu Leu Gly
 1   5   10   15
Thr Leu Leu Pro Ala Ala Glu Gly Lys Lys Lys Gly Ser Gln Gly Ala
            20   25   30
Ile Pro Pro Pro Asp Lys Ala Gln His Asn Asp Ser Glu Gln Thr Gln
        35   40   45
Ser Pro Gln Gln Pro Gly Ser Arg Asn Arg Gly Arg Gly Gln Gly Arg
    50   55   60
Gly Thr Ala Met Pro Gly Glu Glu Val Leu Glu Ser Ser Gln Glu Ala
65   70   75   80
Leu His Val Thr Glu Arg Lys Tyr Leu Lys Arg Asp Trp Cys Lys Thr
                85   90   95
Gln Pro Leu Lys Gln Thr Ile His Glu Glu Gly Cys Asn Ser Arg Thr
            100   105   110
Ile Ile Asn Arg Phe Cys Tyr Gly Gln Cys Asn Ser Phe Tyr Ile Pro
        115   120   125
Arg His Ile Arg Lys Glu Glu Gly Ser Phe Gln Ser Cys Ser Phe Cys
    130   135   140
Lys Pro Lys Lys Phe Thr Thr Met Met Val Thr Leu Asn Cys Pro Glu
145   150   155   160
Leu Gln Pro Pro Thr Lys Lys Lys Arg Val Thr Arg Val Lys Gln Cys
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Arg Cys Ile Ser Ile Asp Leu Asp
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Ser Pro Gln Gln Pro Gly Ser Arg Asn Arg Gly Arg Gly Gln Gly Arg
    50                  55                  60
Gly Thr Ala Met Pro Gly Glu Glu Val Leu Glu Ser Ser Gln Glu Ala
65                  70                  75                  80
Leu His Val Thr Glu Arg Lys Tyr Leu Lys Arg Asp Trp Cys Lys Thr
                85                  90                  95
Gln Pro Leu Lys Gln Thr Ile His Glu Glu Gly Cys Asn Ser Arg Thr
            100                 105                 110
Ile Ile Asn Arg Phe Cys Tyr Gly Gln Cys Asn Ser Phe Tyr Ile Pro
        115                 120                 125
Arg His Ile Arg Lys Glu Glu Gly Ser Phe Gln Ser Cys Ser Phe Cys
    130                 135                 140
Lys Pro Lys Lys Phe Thr Thr Met Met Val Thr Leu Asn Cys Pro Glu
145                 150                 155                 160
Leu Gln Pro Pro Thr Lys Lys Lys Arg Val Thr Arg Val Lys Gln Cys
                165                 170                 175
Arg Cys Ile Ser Ile Asp Leu Asp
            180
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