SEQUENCE LISTING

<110> Biorealities S.A.S.

<120> PROGASTRIN AND LIVER PATHOLOGIES

<130> N.112750

<150> 61/293,557
<151> 2010-01-08

<160> 106

<170> PatentIn version 3.5

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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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<210> 5
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<213> Artificial Sequence

<220>
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Lys Val Ser
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<210> 6
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<220>
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<220>
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Gly Tyr Thr Phe Ser Ser Ser Trp
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<210> 8
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<220>
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<210> 9
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<220>
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peptide

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Ala Thr Asp Gly Asn Tyr Asp Trp Phe Ala Tyr
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<400> 11
Ser Gln Ser Thr His Val Pro Pro Thr
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<210> 12
<211> 115
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<220>
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<400> 12
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1 5 10 15

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

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

Gly Gly Phe Tyr Pro Gly Asn Ser Asp Ser Arg Tyr Asn Gln Lys Phe
50 55 60

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

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

Thr Arg Arg Asp Ser Pro Gln Tyr Trp Gly Gln Gly Thr Thr Leu Thr
100 105 110

Val Ser Ser
115

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<220>
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<400> 13
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1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

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

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

Ser Arg Leu Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
85 90 95

Ser His Val Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 14
<211> 118
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<400> 14
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1 5 10 15

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

Trp Ile Glu Trp Leu Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile
35 40 45

Gly Glu Phe Leu Pro Gly Ser Gly Ser Thr Asp Tyr Asn Glu Lys Phe
50 55 60

Lys Gly Lys Ala Thr Phe Thr Ala Asp Thr Ser Ser Asp Thr Ala Tyr
65 70 75 80

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

Ala Thr Asp Gly Asn Tyr Asp Trp Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ala
115

<210> 15
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
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<400> 15
Asp Leu Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 16
<211> 345
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<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

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<222> (1)..(345)

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

tcc gtg aag atg tcc tgc aag gct tct ggc tac atc ttt acc agc tac 96
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Ser Tyr
20 25 30

tgg gta cac tgg gtt aaa cag agg cct gga cag ggt cta gaa tgg att 144
Trp Val His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

ggt ggt ttt tat cct gga aat agt gat tct agg tac aac cag aaa ttc 192
Gly Gly Phe Tyr Pro Gly Asn Ser Asp Ser Arg Tyr Asn Gln Lys Phe
50 55 60

aag ggc aag gcc aca ctg act gca gtc aca tcc gcc agt act gcc tac 240
Lys Gly Lys Ala Thr Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

atg gac ctc agc agc ctg aca aat gag gac tct gcg gtc tat ttc tgt 288
Met Asp Leu Ser Ser Leu Thr Asn Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

aca aga aga gat agt ccc cag tac tgg ggc caa ggc acc act ctc aca 336
Thr Arg Arg Asp Ser Pro Gln Tyr Trp Gly Gln Gly Thr Thr Leu Thr
100 105 110

gtc tcc tca 345
Val Ser Ser
115

<210> 17
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<220>
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<222> (1)..(336)

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Asp Val Leu Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1 5 10 15

gat caa gcc tcc atc tct tgc aga tct agt cag agc att gta cat agt 96
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
20 25 30

aat gga aac acc tat tta gaa tgg tac ctg cag aaa cca ggc cag tct 144
Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

cca aag ctc ctg atc tac aaa gtt tcc aac cga ttt tct ggg gtc cca 192
Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro

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    50                  55                  60

gac agg ttc agt ggc agt gga tca ggg aca gat ttc aca ctc aag atc        240
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65                  70                  75                  80

agc aga ctg gag gct gag gat ctg gga gtt tat tac tgc ttt caa ggt        288
Ser Arg Leu Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
                85                  90                  95

tca cat gtt ccg ttc acg ttc gga ggg ggg acc aag ctg gaa ata aaa        336
Ser His Val Pro Phe Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
            100                 105                 110


<210> 18
<211> 354
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polynucleotide


<220>
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<400> 18
cag gtt cag ttg cag cag tct gga gct gag ctg atg aag cca ggg gcc         48
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Met Lys Pro Gly Ala
1               5                   10                  15

tca gtg aag ata tcc tgc aag gct act ggc tac aca ttc agt agc tcc         96
Ser Val Lys Ile Ser Cys Lys Ala Thr Gly Tyr Thr Phe Ser Ser Ser
            20                  25                  30

tgg ata gag tgg tta aaa cag agg cct gga cat ggc ctt gag tgg att        144
Trp Ile Glu Trp Leu Lys Gln Arg Pro Gly His Gly Leu Glu Trp Ile
        35                  40                  45

gga gag ttt tta cct gga agt ggt agt aca gac tac aat gag aag ttc        192
Gly Glu Phe Leu Pro Gly Ser Gly Ser Thr Asp Tyr Asn Glu Lys Phe
    50                  55                  60

aag ggc aag gcc aca ttc act gca gac aca tcc tcc gac aca gcc tac        240
Lys Gly Lys Ala Thr Phe Thr Ala Asp Thr Ser Ser Asp Thr Ala Tyr
65                  70                  75                  80

atg cta ctc agc agc ctg aca tct gag gac tct gcc gtc tat tac tgt        288
Met Leu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
                85                  90                  95

gca act gat ggt aat tat gac tgg ttt gct tac tgg ggc caa ggg act        336
Ala Thr Asp Gly Asn Tyr Asp Trp Phe Ala Tyr Trp Gly Gln Gly Thr
            100                 105                 110

ctg gtc act gtc tct gca                                               354
Leu Val Thr Val Ser Ala
        115


<210> 19
<211> 336
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<220>
<221> CDS
<222> (1)..(336)

<400> 19
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Asp Leu Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
1               5                  10                  15

gat caa gcc tcc atc tct tgc aga tct agt cag agc ctt gta cac agt   96
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
            20                  25                  30

agt gga gtc acc tat tta cat tgg tac ctg cag aag cca ggc cag tct  144
Ser Gly Val Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35                  40                  45

cca aag ctc ctg atc tac aaa gtt tcc aac cga ttt tct ggg gtc cca  192
Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
    50                  55                  60

gac agg ttc agt ggc agt gga tca ggg aca gat ttc aca ctc aag atc  240
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65                  70                  75                  80

agc aga gtg gag gct gag gat ctg gga gtt tat ttc tgc tct caa agt  288
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Ser
                85                  90                  95

aca cat gtt cct ccc acg ttc ggc tcg ggg aca aag ttg gaa ata aaa  336
Thr His Val Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
            100                 105                 110
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<210> 20
<211> 80
<212> PRT
<213> Homo sapiens

<400> 20
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1               5                  10                  15

Ala Asn Arg Asp Leu Glu Leu Pro Trp Leu Glu Gln Gln Gly Pro Ala
            20                  25                  30

Ser His His Arg Arg Gln Leu Gly Pro Gln Gly Pro Pro His Leu Val
        35                  40                  45

Ala Asp Pro Ser Lys Lys Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu
    50                  55                  60

Ala Tyr Gly Trp Met Asp Phe Gly Arg Arg Ser Ala Glu Asp Glu Asn
65                  70                  75                  80
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<210> 21
<211> 115
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 21
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

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

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

Gly Gly Phe Tyr Pro Gly Asn Ser Asp Ser Arg Tyr Ser Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala 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

Thr Arg Arg Asp Ser Pro Gln Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 22
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 22
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Glu Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Gly
85 90 95

Ser His Val Pro Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 23
<211> 118
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 23
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

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

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

Gly Ile Phe Leu Pro Gly Ser Gly Ser Thr Asp Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val 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 Gly Asn Tyr Asp Trp Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 24
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 24
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Val His Ser
20 25 30

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

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

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

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

Thr His Val Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 25
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<400> 25
Ser Trp Lys Pro Arg Ser Gln Gln Pro Asp Ala Pro Leu Gly
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<210> 26
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<223> Description of Artificial Sequence: Synthetic peptide

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<400> 26
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<210> 27
<211> 26
<212> PRT
<213> Homo sapiens

<400> 27
Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu Ala Tyr Gly Trp Met Asp
1 5 10 15

Phe Gly Arg Arg Ser Ala Glu Asp Glu Asn
20 25

<210> 28
<211> 5
<212> PRT

<213> Homo sapiens

<400> 28
Asp Ala Pro Leu Gly
1 5

<210> 29
<211> 6
<212> PRT
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<400> 29
Pro Asp Ala Pro Leu Gly
1 5

<210> 30
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<400> 30
Pro Arg Ser Gln Gln Pro Asp
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<210> 31
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<400> 31
Trp Lys Pro Arg Ser Gln Gln Pro Asp
1 5

<210> 32
<211> 13
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<400> 32
Trp Lys Pro Arg Ser Gln Gln Pro Asp Ala Pro Leu Gly
1 5 10

<210> 33
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<400> 33
Phe Gly Arg Arg
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<210> 34
<211> 5
<212> PRT
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<400> 34
Met Asp Phe Gly Arg
1 5

<210> 35

<211> 5
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<400> 35
Ala Glu Asp Glu Asn
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<210> 36
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<400> 36
Gly Trp Met Asp Phe Gly Arg Arg
1 5

<210> 37
<211> 8
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<400> 37
Gly Phe Thr Phe Thr Thr Tyr Ala
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<210> 38
<211> 8
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 38
Gly Phe Ile Phe Ser Ser Tyr Gly
1 5

<210> 39
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 39
Gly Tyr Thr Phe Thr Ser Tyr Tyr
1 5

<210> 40
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
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peptide

<400> 40
Gly Tyr Ser Ile Thr Ser Asp Tyr Ala
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<210> 41
<211> 8
<212> PRT
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<210> 42
<211> 8
<212> PRT
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<223> Description of Artificial Sequence: Synthetic peptide

<400> 42
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<210> 43
<211> 8
<212> PRT
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<400> 43
Ile Asn Pro Ser Asn Gly Gly Thr
1 5

<210> 44
<211> 7
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Ile Ser Phe Ser Gly Tyr Thr
1 5

<210> 45
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<400> 45
Ala Thr Gln Gly Asn Tyr Ser Leu Asp Phe
1 5 10

<210> 46
<211> 7
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<220>
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<400> 46
Ala Arg Gly Thr Gly Thr Tyr
1 5

<210> 47
<211> 10
<212> PRT
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<400> 47
Thr Arg Gly Gly Tyr Tyr Pro Phe Asp Tyr
1 5 10

<210> 48
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<220>
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Ala Arg Glu Val Asn Tyr Gly Asp Ser Tyr His Phe Asp Tyr
1 5 10

<210> 49
<211> 11
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 49
Lys Ser Leu Arg His Thr Lys Gly Ile Thr Phe
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<210> 50
<211> 11
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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1 5 10

<210> 51
<211> 7
<212> PRT
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<220>
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<400> 51
Ser Gln His Arg Thr Tyr Thr
1 5

<210> 52
<211> 3
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<220>
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<400> 52
Gln Met Ser
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<210> 53
<211> 3
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 53
Leu Val Ser
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<210> 54
<211> 7
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 54
Val Lys Lys Asp Gly Ser His
1 5

<210> 55

<211> 9
<212> PRT
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<220>
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<400> 55
Ala Gln Asn Leu Glu Leu Pro Leu Thr
1 5

<210> 56
<211> 9
<212> PRT
<213> Artificial Sequence

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<400> 56
Trp Gln Gly Thr His Phe Pro Gln Thr
1 5

<210> 57
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 57
Trp Gln Gly Thr His Ser Pro Tyr Thr
1 5

<210> 58
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 58
Gly Val Gly Asp Ala Ile Lys Gly Gln Ser Val Phe Val
1 5 10

<210> 59
<211> 117
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<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 59
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15

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

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

Ala Thr Ile Ser Ser Gly Gly Thr Tyr Thr Tyr Tyr Pro Asp Ser Val
50 55 60

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

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

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

Leu Thr Val Ser Ser
115

<210> 60
<211> 114
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 60
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ile Phe Ser Ser Tyr
20 25 30

Gly Met Ser Trp Val Arg Gln Ser Pro Asp Arg Arg Leu Glu Leu Val
35 40 45

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

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

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

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

Ser Ser

<210> 61
<211> 117
<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 61
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

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

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

Gly Glu Ile Asn Pro Ser Asn Gly Gly Thr Asn Phe Asn Glu Lys Phe
50 55 60

Lys Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

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

Thr Arg Gly Gly Tyr Tyr Pro Phe Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Leu Thr Val Ser Ser
115

<210> 62
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<212> PRT
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<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 62
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

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

Tyr Ala Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Met Gly Tyr Ile Ser Phe Ser Gly Tyr Thr Ser Tyr Asn Pro Ser Leu

50 55 60

Lys Ser Arg Ile Ser Val Thr Arg Asp Thr Ser Arg Asn Gln Phe Phe
65 70 75 80

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

Ala Arg Glu Val Asn Tyr Gly Asp Ser Tyr His Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Ile Val Thr Val Ser Ser
115 120

<210> 63
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 63
Asp Ile Val Met Thr Gln Ala Ala Ser Ser Asn Pro Val Thr Leu Gly
1 5 10 15

Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Arg His Thr
20 25 30

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

Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

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

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

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

<210> 64
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 64
Asp Val Val Leu Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly

1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

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

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

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

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 65
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 65
Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15

Arg Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Tyr Trp Leu Leu Gln Arg Pro Gly Gln Ser
35 40 45

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

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

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Ser Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 66
<211> 115
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 66

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

Ser Ala Lys Leu Thr Cys Thr Leu Ser Ser Gln His Arg Thr Tyr Thr
            20                  25                  30

Ile Glu Trp Tyr Gln Gln Gln Ser Leu Lys Pro Pro Lys Tyr Val Met
        35                  40                  45

Glu Val Lys Lys Asp Gly Ser His Ser Thr Gly His Gly Ile Pro Asp
    50                  55                  60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Asp Arg Tyr Leu Ser Ile Ser
65                  70                  75                  80

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

Ala Ile Lys Gly Gln Ser Val Phe Val Phe Gly Gly Gly Thr Lys Val
            100                 105                 110

Thr Val Leu
        115
```

<210> 67
<211> 351
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<220>
<221> CDS
<222> (1)..(351)

<400> 67

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gaa gtg cag ctg gtg gag tct ggg gga ggc tta gtg aag cct gga ggg          48
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1               5                   10                  15

tcc ctg aaa ctc tcc tgt gca gcc tct gga ttc act ttc act acc tat          96
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Thr Thr Tyr
            20                  25                  30

gcc atg tct tgg gtt cgc cag act ccg gag aag agg ctg gag tgg gtc         144
Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
        35                  40                  45

gca acc att agt agt ggt ggt act tac acc tac tat cca gac agt gtg         192
Ala Thr Ile Ser Ser Gly Gly Thr Tyr Thr Tyr Tyr Pro Asp Ser Val
```

```
    50                  55                  60

aag ggt cga ttc acc atc tcc aga gac aat gcc aag aac gcc cta tac        240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ala Leu Tyr
65                  70                  75                  80

ctg caa atg agc agt ctg agg tct gag gac acg gcc atg tat tac tgt        288
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
                85                  90                  95

gca aca cag ggg aat tac tct ttg gac ttc tgg ggc caa ggc acc tct        336
Ala Thr Gln Gly Asn Tyr Ser Leu Asp Phe Trp Gly Gln Gly Thr Ser
            100                 105                 110

ctc aca gtc tcc tca                                                   351
Leu Thr Val Ser Ser
        115


<210> 68
<211> 342
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polynucleotide


<220>
<221> CDS
<222> (1)..(342)

<400> 68
gag gtg cag ctg gtg gag tct ggg gga ggc ttg gtg cag cct gga ggg         48
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1               5                   10                  15

tcc ctg aaa ctc tcc tgt gca gcc tct gga ttc att ttc agt agc tat         96
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ile Phe Ser Ser Tyr
            20                  25                  30

ggc atg tct tgg gtt cgc cag tct cca gac agg agg ctg gag ttg gtc        144
Gly Met Ser Trp Val Arg Gln Ser Pro Asp Arg Arg Leu Glu Leu Val
        35                  40                  45

gca agt att aat act ttt ggt gat aga acc tat tat cca gac agt gtg        192
Ala Ser Ile Asn Thr Phe Gly Asp Arg Thr Tyr Tyr Pro Asp Ser Val
    50                  55                  60

aag ggc cga ttc acc atc tcc aga gac aat gcc aag aac acc ctg tac        240
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65                  70                  75                  80

ctg caa atg acc agt ctg aag tct gag gac aca gcc att tat tac tgt        288
Leu Gln Met Thr Ser Leu Lys Ser Glu Asp Thr Ala Ile Tyr Tyr Cys
                85                  90                  95

gca aga ggg acc gga acc tac tgg ggc caa ggc acc act ctc aca gtc        336
Ala Arg Gly Thr Gly Thr Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val
            100                 105                 110

tcc tca                                                               342
Ser Ser


<210> 69
```

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

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<220>
<221> CDS
<222> (1)..(351)

<400> 69
cag gtc caa ctg cag cag tct ggg gct gaa ctg gtg aag cct ggg gct 48
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

tca gtg aag ttg tcc tgc aag gct tct ggc tac acc ttc acc agc tac 96
Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

tat atg tac tgg gtg aag cag agg cct gga caa ggc ctt gag tgg att 144
Tyr Met Tyr Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

gga gag att aat cct agc aat ggt ggt act aac ttc aat gag aag ttc 192
Gly Glu Ile Asn Pro Ser Asn Gly Gly Thr Asn Phe Asn Glu Lys Phe
50 55 60

aag agc aag gcc aca ctg act gta gac aaa tcc tcc agc aca gca tac 240
Lys Ser Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

atg caa ctc agc agc ctg aca tct gag gac tct gcg gtc tat tac tgt 288
Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

aca aga ggc ggt tac tac ccc ttt gac tac tgg ggc caa ggc acc act 336
Thr Arg Gly Gly Tyr Tyr Pro Phe Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

ctc aca gtc tcc tca 351
Leu Thr Val Ser Ser
115

<210> 70
<211> 363
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polynucleotide

<220>
<221> CDS
<222> (1)..(363)

<400> 70
gat gtg cag ctt cag gag tcg gga cct ggc ctg gtg aaa cct tct cag 48
Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

tct ctg tcc ctc aca tgc act gtc act ggc tac tca atc acc agt gat 96
Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Asp

```
            20                  25                  30

tat gcc tgg aat tgg atc cgg cag ttt cca gga aac aaa ctg gag tgg        144
Tyr Ala Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
        35                  40                  45

atg ggc tac ata agc ttc agt ggt tac act agt tac aac cca tct ctc        192
Met Gly Tyr Ile Ser Phe Ser Gly Tyr Thr Ser Tyr Asn Pro Ser Leu
    50                  55                  60

aaa agt cga atc tct gtc act cgg gac aca tcc agg aac caa ttc ttc        240
Lys Ser Arg Ile Ser Val Thr Arg Asp Thr Ser Arg Asn Gln Phe Phe
65                  70                  75                  80

ctc cag ttg act tct gtg act act gag gac aca gcc aca tat tac tgt        288
Leu Gln Leu Thr Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
                85                  90                  95

gca aga gag gtc aac tat ggg gac tcc tac cac ttt gac tac tgg ggc        336
Ala Arg Glu Val Asn Tyr Gly Asp Ser Tyr His Phe Asp Tyr Trp Gly
            100                 105                 110

caa ggc acc att gtc aca gtc tcc tca                                   363
Gln Gly Thr Ile Val Thr Val Ser Ser
        115                 120


<210> 71
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polynucleotide


<220>
<221> CDS
<222> (1)..(336)

<400> 71
gac att gtg atg acg cag gct gca tcc tct aat cca gtc act ctt gga         48
Asp Ile Val Met Thr Gln Ala Ala Ser Ser Asn Pro Val Thr Leu Gly
1               5                   10                  15

aca tcc gct tcc atc tcc tgc agg tct agt aag agt ctc cga cat act         96
Thr Ser Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Arg His Thr
            20                  25                  30

aaa ggc atc act ttt ttg tat tgg tat ctg cag aag cca ggc cag tct        144
Lys Gly Ile Thr Phe Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser
        35                  40                  45

cct cag ctc ctg att tat cag atg tcc aac ctt gcc tca gga gtc cca        192
Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala Ser Gly Val Pro
    50                  55                  60

gac agg ttc agt agc agt ggg tca gga act gat ttc aca ctg aga atc        240
Asp Arg Phe Ser Ser Ser Gly Ser Gly Thr Asp Phe Thr Leu Arg Ile
65                  70                  75                  80

agc aga gtg gag gct gag gat ttg ggt gtt tat tac tgt gct caa aat        288
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Ala Gln Asn
                85                  90                  95

cta gaa ctt ccg ctc acg ttc ggt gct ggg acc aag ctg gag ctg aaa        336
Leu Glu Leu Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
```

```
            100                 105                 110

<210> 72
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polynucleotide


<220>
<221> CDS
<222> (1)..(336)

<400> 72
gat gtt gtg ctg acc cag act cca ctc act ttg tcg gtt acc att gga          48
Asp Val Val Leu Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1               5                  10                  15

caa cca gcc tcc atc tcc tgc aag tca agt cag agc ctc tta gat agt          96
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
            20                  25                  30

gat gga aag aca tat ttg aat tgg ttg tta cag agg cca ggc cag tct         144
Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
        35                  40                  45

cca aag cgc cta atc tat ctg gtg tct aaa ctg gac tct gga gtc cct         192
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
    50                  55                  60

gac agg ttc act ggc agt gga tca ggg aca gat ttc aca ctg aaa atc         240
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65                  70                  75                  80

agc aga gtg gag gct gag gat ttg gga gtt tat tat tgc tgg caa ggt         288
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
                85                  90                  95

aca cat ttt cct cag acg ttc ggt gga ggc acc aag ctg gaa atc aaa         336
Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
            100                 105                 110


<210> 73
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polynucleotide


<220>
<221> CDS
<222> (1)..(336)

<400> 73
gat gtt gtg atg acc cag act cca ctc act ttg tcg gtt acc att ggg          48
Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1               5                  10                  15

cgc cca gcc tcc atc tct tgc aag tca agt cag agc ctc tta gac agt          96
Arg Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
```

```
            20                  25                  30

gat gga aag aca tat ttg tat tgg ttg tta cag agg cca ggc cag tct        144
Asp Gly Lys Thr Tyr Leu Tyr Trp Leu Leu Gln Arg Pro Gly Gln Ser
        35                  40                  45

cca aag cgc cta atc tat ctg gtg tct gag ctg gac tct gga gtc cct        192
Pro Lys Arg Leu Ile Tyr Leu Val Ser Glu Leu Asp Ser Gly Val Pro
    50                  55                  60

gac agg atc act ggc agt ggg tcg ggg aca gat ttc aca ctg aag atc        240
Asp Arg Ile Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65                  70                  75                  80

agc aga gtg gag gct gag gat ttg gga gtt tat tat tgc tgg caa gga        288
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
                85                  90                  95

aca cat tct ccg tac acg ttc gga ggg ggg acc aag ctg gaa ata aaa        336
Thr His Ser Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
            100                 105                 110


<210> 74
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      polynucleotide


<220>
<221> CDS
<222> (1)..(345)

<400> 74
caa ctt gcg ctc act cag tca tct tca gcc tct ttc tcc ctg gga gcc         48
Gln Leu Ala Leu Thr Gln Ser Ser Ser Ala Ser Phe Ser Leu Gly Ala
1               5                   10                  15

tca gca aaa cta acg tgc act ttg agt agt caa cac aga acg tac acc         96
Ser Ala Lys Leu Thr Cys Thr Leu Ser Ser Gln His Arg Thr Tyr Thr
            20                  25                  30

att gaa tgg tat cag caa cag tca ctc aag cct cct aag tat gtg atg        144
Ile Glu Trp Tyr Gln Gln Gln Ser Leu Lys Pro Pro Lys Tyr Val Met
        35                  40                  45

gag gtt aag aaa gat gga agc cac agc aca ggt cat ggg att cct gat        192
Glu Val Lys Lys Asp Gly Ser His Ser Thr Gly His Gly Ile Pro Asp
    50                  55                  60

cgc ttc tct gga tcc agt tct ggt gct gat cgc tac ctc agc att tcc        240
Arg Phe Ser Gly Ser Ser Ser Gly Ala Asp Arg Tyr Leu Ser Ile Ser
65                  70                  75                  80

aac atc cag cct gaa gat gaa gca ata tac atc tgt ggt gtg ggt gat        288
Asn Ile Gln Pro Glu Asp Glu Ala Ile Tyr Ile Cys Gly Val Gly Asp
                85                  90                  95

gca att aag gga caa tct gtg ttt gtt ttc ggc ggt ggc acc aag gtc        336
Ala Ile Lys Gly Gln Ser Val Phe Val Phe Gly Gly Gly Thr Lys Val
            100                 105                 110

act gtc cta                                                            345
Thr Val Leu
```

115

<210> 75
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 75
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 Thr Thr Tyr
20 25 30

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

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

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

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

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

Val Thr Val Ser Ser
115

<210> 76
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 76
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 Lys Ser Leu Arg His Thr
20 25 30

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

Pro Gln Leu Leu Ile Tyr Gln Met 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 Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
85 90 95

Leu Glu Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 77
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 77
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 Thr Thr Tyr
20 25 30

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

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

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

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

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

Val Thr Val Ser Ser
115

<210> 78
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 78
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 Lys Ser Leu Arg His Thr
20 25 30

Lys Gly Ile Thr Phe Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Gln Met 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 Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
85 90 95

Leu Glu Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 79
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 79
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 Thr Thr Tyr
20 25 30

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

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

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

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

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

Val Thr Val Ser Ser
115

<210> 80
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 80
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 Ile Phe Ser Ser Tyr
20 25 30

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

Ala Asn Ile Asn Thr Phe Gly Asp Arg Thr Tyr Tyr Val 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 Gly Thr Gly Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
100 105 110

Ser Ser

<210> 81
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 81
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 82
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 82
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 Ile Phe Ser Ser Tyr
20 25 30

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

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

Ser Ser

<210> 83
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 83
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

```
Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
            20                  25                  30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
        35                  40                  45

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

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
                85                  90                  95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
            100                 105                 110
```

<210> 84
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 84

```
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1               5                   10                  15

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

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

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

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
65                  70                  75                  80

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

Thr Arg Gly Gly Tyr Tyr Pro Phe Asp Tyr Trp Gly Gln Gly Thr Thr
            100                 105                 110

Val Thr Val Ser Ser
        115
```

<210> 85

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

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 85
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Tyr Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Ser Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 86
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 86
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

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

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

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

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Thr Arg Gly Gly Tyr Tyr Pro Phe Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser
115

<210> 87
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 87
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Ser Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 88
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 88
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

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

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35 40 45

Gly Glu Ile Asn Pro Ser Asn Gly Gly Thr Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr
65 70 75 80

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

Thr Arg Gly Gly Tyr Tyr Pro Phe Asp Tyr Trp Gly Gln Gly Thr Thr
100 105 110

Val Thr Val Ser Ser
115

<210> 89
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 89
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Tyr Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Glu Arg Asp Ser Gly Val Pro
50 55 60

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

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Thr His Ser Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 90
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

polypeptide

<400> 90
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

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

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

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

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Val Asn Tyr Gly Asp Ser Tyr His Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 91
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 91
Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Arg Thr Tyr Thr
20 25 30

Ile Glu Trp His Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Leu Met
35 40 45

Lys Val Lys Lys Asp Gly Ser His Ser Lys Gly Asp Gly Ile Pro Asp
50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

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

Ala Ile Lys Gly Gln Ser Val Phe Val Phe Gly Gly Gly Thr Lys Val
100 105 110

Glu Ile Lys
115

<210> 92
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 92
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

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

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

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

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Val Asn Tyr Gly Asp Ser Tyr His Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 93
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 93
Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Arg Thr Tyr Thr
20 25 30

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

Lys Val Lys Lys Asp Gly Ser His Ser Lys Gly Asp Gly Ile Pro Asp
50 55 60

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

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

Ala Ile Lys Gly Gln Ser Val Phe Val Phe Gly Gly Gly Thr Lys Val
100 105 110

Glu Ile Lys
115

<210> 94
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 94
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

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

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

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

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
65 70 75 80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Glu Val Asn Tyr Gly Asp Ser Tyr His Phe Asp Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 95

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

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 95
Gln Leu Val Leu Thr Gln Ser Pro Ser Ala Ser Ala Ser Leu Gly Ala
1 5 10 15

Ser Val Lys Leu Thr Cys Thr Leu Ser Ser Gln His Arg Thr Tyr Thr
20 25 30

Ile Glu Trp His Gln Gln Gln Pro Glu Lys Gly Pro Arg Tyr Leu Met
35 40 45

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

Arg Phe Ser Gly Ser Ser Ser Gly Ala Glu Arg Tyr Leu Thr Ile Ser
65 70 75 80

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

Ala Ile Lys Gly Gln Ser Val Phe Val Phe Gly Gly Gly Thr Lys Val
100 105 110

Glu Ile Lys
115

<210> 96
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> MISC_FEATURE
<222> (2)..(3)
<223> Xaa is modified residue Aminohexanoic acid

<400> 96
Cys Xaa Xaa Gln Gly Pro Trp Leu Glu Glu Glu Glu Ala Tyr Gly
1 5 10 15

Trp Met Asp Phe Gly Arg Arg Ser Ala Glu Asp Glu Asn
20 25

<210> 97
<211> 13
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> MISC_FEATURE
<222> (2)..(3)
<223> Xaa is modified residue Aminohexanoic acid

<400> 97
Cys Xaa Xaa Phe Gly Arg Arg Ser Ala Glu Asp Glu Asn
1 5 10

<210> 98
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> MISC_FEATURE
<222> (11)..(12)
<223> Xaa is modified residue Aminohexanoic acid

<400> 98
Phe Gly Arg Arg Ser Ala Glu Asp Glu Asn Xaa Xaa Cys
1 5 10

<210> 99
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 99
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 100
<211> 101
<212> PRT
<213> Homo sapiens

<400> 100

Met Gln Arg Leu Cys Val Tyr Val Leu Ile Phe Ala Leu Ala Leu Ala
1 5 10 15

Ala Phe Ser Glu Ala Ser Trp Lys Pro Arg Ser Gln Gln Pro Asp Ala
20 25 30

Pro Leu Gly Thr Gly Ala Asn Arg Asp Leu Glu Leu Pro Trp Leu Glu
35 40 45

Gln Gln Gly Pro Ala Ser His His Arg Arg Gln Leu Gly Pro Gln Gly
50 55 60

Pro Pro His Leu Val Ala Asp Pro Ser Lys Lys Gln Gly Pro Trp Leu
65 70 75 80

Glu Glu Glu Glu Glu Ala Tyr Gly Trp Met Asp Phe Gly Arg Arg Ser
85 90 95

Ala Glu Asp Glu Asn
100

<210> 101
<211> 80
<212> PRT
<213> Homo sapiens

<400> 101

Ser Trp Lys Pro Arg Ser Gln Gln Pro Asp Ala Pro Leu Gly Thr Gly
1 5 10 15

Ala Asn Arg Asp Leu Glu Leu Pro Trp Leu Glu Gln Gln Gly Pro Ala
20 25 30

Ser His His Arg Arg Gln Leu Gly Pro Gln Gly Pro Pro His Leu Val
35 40 45

Ala Asp Pro Ser Lys Lys Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu
50 55 60

Ala Tyr Gly Trp Met Asp Phe Gly Arg Arg Ser Ala Glu Asp Glu Asn
65 70 75 80

<210> 102
<211> 34
<212> PRT
<213> Homo sapiens

<400> 102

Gln Leu Gly Pro Gln Gly Pro Pro His Leu Val Ala Asp Pro Ser Lys
1 5 10 15

Lys Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu Ala Tyr Gly Trp Met
20 25 30

Asp Phe

<210> 103
<211> 35
<212> PRT
<213> Homo Sapiens

<400> 103

Gln Leu Gly Pro Gln Gly Pro Pro His Leu Val Ala Asp Pro Ser Lys
1 5 10 15

Lys Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu Ala Tyr Gly Trp Met
20 25 30

Asp Phe Gly
35

<210> 104
<211> 17
<212> PRT
<213> Homo sapiens

<400> 104

Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu Ala Tyr Gly Trp Met Asp
1 5 10 15

Phe

<210> 105
<211> 18
<212> PRT
<213> Homo sapiens

<400> 105

Gln Gly Pro Trp Leu Glu Glu Glu Glu Glu Ala Tyr Gly Trp Met Asp
1 5 10 15

Phe Gly

<210> 106
<211> 6
<212> PRT
<213> Homo sapiens

<400> 106

Ser Ala Glu Asp Glu Asn
1 5