<110> GENENTECH, INC. ET AL.

<120> COMPOSITIONS AND METHODS FOR DIAGNOSIS AND TREATMENT OF HEPATIC CANCERS

<130> P5570R1-WO

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<150> 61/789,475
<151> 2013-03-15

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<220>
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<210> 2
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<400> 2
Ala Asp Leu Gly Ser
1 5

<210> 3
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<400> 3
Ser Tyr Ile Tyr Pro Tyr Ser Gly Ala Thr Tyr Tyr Ala Asp Ser Val
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Lys Gly

<210> 4
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1 5 10

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 5
Arg Ala Ser Gln Ser Ile Ser Ser Tyr Leu Ala
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<211> 11
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 6
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1 5 10

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Arg Ala Ser Gln Ser Val Arg Ser Phe Leu Ala
1 5 10

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<223> /note="Description of Artificial Sequence: Synthetic

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<400> 8
Arg Ala Ser Gln Asn Ile Lys Arg Phe Leu Ala
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<220>
<221> misc_feature
<222> (1)..(11)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

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1 5 10

<210> 10
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Gly Ala Ser Ser Arg Ala Ser
1 5

<210> 11
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<213> Artificial Sequence

<220>
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<400> 11
Gly Ala Ser Arg Arg Ala Ser
1 5

<210> 12
<211> 7
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<220>
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Arg Ala Ser Ile Arg Ala Ser
1 5

<210> 13
<211> 7
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Gly Ala Ser Thr Arg Glu Ser
1 5

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<220>
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<222> (4)..(4)
<223> /replace="Arg" or "Ile" or "Thr"

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<222> (6)..(6)
<223> /replace="Glu"

<220>
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<223> /note="Variant residues given in the sequence have no
preference with respect to those in the annotations
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Gly Ala Ser Ser Arg Ala Ser
1 5

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<220>
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1 5

<210> 16
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<213> Artificial Sequence

<220>
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peptide"

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1 5

<210> 17
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<220>
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<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 17
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<210> 18
<211> 9
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<213> Artificial Sequence

<220>

<221> source
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<400> 18
Gln Gln Tyr Tyr Arg Ser Pro His Thr
1 5

<210> 19
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<220>
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<222> (1)..(9)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 19
Gln Gln Tyr Tyr Ser Ser Pro Leu Thr
1 5

<210> 20
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

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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 Tyr Ser Phe Thr Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala 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 His Ser Gly Tyr Tyr Arg Ile Ser Ser Ala Met Asp Val Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 21

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

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 22
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 Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ser Arg Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 23
<211> 107
<212> PRT
<213> Artificial Sequence

<220>

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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 23
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 Asn Arg Arg Phe
20 25 30

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

Tyr Gly Ala Ser Arg Arg Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 24
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 24
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 Val Arg Ser Phe
20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Ile Ser Pro Ser
85 90 95

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

<210> 25
<211> 107
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 25
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

Tyr Gly Ala Ser Thr Arg Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Arg Ser Pro His
85 90 95

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

<210> 26
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 26
Leu Val Pro Arg Gly Ser
1 5

<210> 27
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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<400> 27
His His His His His His
1 5

<210> 28
<211> 344
<212> PRT
<213> Homo sapiens

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Gln Phe Glu Leu Glu Ile Leu Ser Met Gln Asn Val Asn Gly Glu Leu
1 5 10 15

Gln Asn Gly Asn Cys Cys Gly Gly Ala Arg Asn Pro Gly Asp Arg Lys
20 25 30

Cys Thr Arg Asp Glu Cys Asp Thr Tyr Phe Lys Val Cys Leu Lys Glu
35 40 45

Tyr Gln Ser Arg Val Thr Ala Gly Gly Pro Cys Ser Phe Gly Ser Gly
50 55 60

Ser Thr Pro Val Ile Gly Gly Asn Thr Phe Asn Leu Lys Ala Ser Arg
65 70 75 80

Gly Asn Asp Arg Asn Arg Ile Val Leu Pro Phe Ser Phe Ala Trp Pro
85 90 95

Arg Ser Tyr Thr Leu Leu Val Glu Ala Trp Asp Ser Ser Asn Asp Thr
100 105 110

Val Gln Pro Asp Ser Ile Ile Glu Lys Ala Ser His Ser Gly Met Ile
115 120 125

Asn Pro Ser Arg Gln Trp Gln Thr Leu Lys Gln Asn Thr Gly Val Ala
130 135 140

His Phe Glu Tyr Gln Ile Arg Val Thr Cys Asp Asp Tyr Tyr Tyr Gly
145 150 155 160

Phe Gly Cys Asn Lys Phe Cys Arg Pro Arg Asp Asp Phe Phe Gly His
165 170 175

Tyr Ala Cys Asp Gln Asn Gly Asn Lys Thr Cys Met Glu Gly Trp Met
180 185 190

Gly Pro Glu Cys Asn Arg Ala Ile Cys Arg Gln Gly Cys Ser Pro Lys
195 200 205

His Gly Ser Cys Lys Leu Pro Gly Asp Cys Arg Cys Gln Tyr Gly Trp
210 215 220

Gln Gly Leu Tyr Cys Asp Lys Cys Ile Pro His Pro Gly Cys Val His

225 230 235 240

Gly Ile Cys Asn Glu Pro Trp Gln Cys Leu Cys Glu Thr Asn Trp Gly
245 250 255

Gly Gln Leu Cys Asp Lys Asp Leu Asn Tyr Cys Gly Thr His Gln Pro
260 265 270

Cys Leu Asn Gly Gly Thr Cys Ser Asn Thr Gly Pro Asp Lys Tyr Gln
275 280 285

Cys Ser Cys Pro Glu Gly Tyr Ser Gly Pro Asn Cys Glu Ile Ala Glu
290 295 300

His Ala Cys Leu Ser Asp Pro Cys His Asn Arg Gly Ser Cys Lys Glu
305 310 315 320

Thr Ser Leu Gly Phe Glu Cys Glu Cys Ser Pro Gly Trp Thr Gly Pro
325 330 335

Thr Cys Ser Thr Asn Ile Asp Asp
340

<210> 29
<211> 314
<212> PRT
<213> Homo sapiens

<400> 29
Met Arg Ile Ala Val Ile Cys Phe Cys Leu Leu Gly Ile Thr Cys Ala
1 5 10 15

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

Tyr Asn Lys Tyr Pro Asp Ala Val Ala Thr Trp Leu Asn Pro Asp Pro
35 40 45

Ser Gln Lys Gln Asn Leu Leu Ala Pro Gln Asn Ala Val Ser Ser Glu
50 55 60

Glu Thr Asn Asp Phe Lys Gln Glu Thr Leu Pro Ser Lys Ser Asn Glu
65 70 75 80

Ser His Asp His Met Asp Asp Met Asp Asp Glu Asp Asp Asp Asp His
85 90 95

Val Asp Ser Gln Asp Ser Ile Asp Ser Asn Asp Ser Asp Asp Val Asp
100 105 110

Asp Thr Asp Asp Ser His Gln Ser Asp Glu Ser His His Ser Asp Glu
115 120 125

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Ser Asp Glu Leu Val Thr Asp Phe Pro Thr Asp Leu Pro Ala Thr Glu
    130                 135                 140

Val Phe Thr Pro Val Val Pro Thr Val Asp Thr Tyr Asp Gly Arg Gly
145                 150                 155                 160

Asp Ser Val Val Tyr Gly Leu Arg Ser Lys Ser Lys Lys Phe Arg Arg
                165                 170                 175

Pro Asp Ile Gln Tyr Pro Asp Ala Thr Asp Glu Asp Ile Thr Ser His
            180                 185                 190

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

Gln Asp Leu Asn Ala Pro Ser Asp Trp Asp Ser Arg Gly Lys Asp Ser
    210                 215                 220

Tyr Glu Thr Ser Gln Leu Asp Asp Gln Ser Ala Glu Thr His Ser His
225                 230                 235                 240

Lys Gln Ser Arg Leu Tyr Lys Arg Lys Ala Asn Asp Glu Ser Asn Glu
                245                 250                 255

His Ser Asp Val Ile Asp Ser Gln Glu Leu Ser Lys Val Ser Arg Glu
            260                 265                 270

Phe His Ser His Glu Phe His Ser His Glu Asp Met Leu Val Val Asp
        275                 280                 285

Pro Lys Ser Lys Glu Glu Asp Lys His Leu Lys Phe Arg Ile Ser His
    290                 295                 300

Glu Leu Asp Ser Ala Ser Ser Glu Val Asn
305                 310


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<211> 32
<212> PRT
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<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 30
Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr
1               5                   10                  15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
            20                  25                  30
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<210> 31
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 31
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
1 5 10

<210> 32
<211> 30
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 32
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
20 25 30

<210> 33
<211> 14
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 33
Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
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<210> 34
<211> 32
<212> PRT
<213> Artificial Sequence

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<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 34
Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 35
<211> 11
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 35
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 36
<211> 25
<212> PRT
<213> Artificial Sequence

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<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 36
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
20 25

<210> 37
<211> 13
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<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 37
Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
1 5 10

<210> 38
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
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<400> 38
Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala
20 25 30

<210> 39
<211> 30
<212> PRT
<213> Artificial Sequence

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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

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Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
20 25 30

<210> 40
<211> 30
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<213> Artificial Sequence

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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 Gly Ser Val Ser
20 25 30

<210> 41
<211> 14
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<400> 41
Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly
1 5 10

<210> 42
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<212> PRT
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<400> 42
Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys
1 5 10 15

Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 43
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<212> PRT
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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
20 25

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Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
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<210> 45
<211> 31
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<400> 45
Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys
1 5 10 15

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

<210> 46
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<400> 46

Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys
1 5 10 15

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

<210> 47
<211> 30
<212> PRT
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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
20 25 30

<210> 48
<211> 14
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<400> 48
Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
1 5 10

<210> 49
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 49
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 50
<211> 25
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<213> Artificial Sequence

<220>
<221> source

<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 50
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
20 25

<210> 51
<211> 13
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<213> Artificial Sequence

<220>
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<400> 51
Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
1 5 10

<210> 52
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 52
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
20 25 30

<210> 53
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 53
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
20 25 30

<210> 54
<211> 30
<212> PRT

<213> Artificial Sequence

<220>
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<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 54
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 Asn Ile Lys
20 25 30

<210> 55
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<220>
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<400> 55
Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg
20 25 30

<210> 56
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<400> 56
Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ser
20 25 30

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<400> 57
Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 58
<211> 31
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<213> Artificial Sequence

<220>
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<400> 58
Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
20 25 30

<210> 59
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
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<400> 59
Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
20 25 30

<210> 60
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<400> 60
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
20

<210> 61
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<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 61
Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 62
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 62
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

<210> 63
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 63
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
1 5 10

<210> 64
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 64
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
20

<210> 65
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 65
Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr
1 5 10 15

<210> 66
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 66
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
20 25 30

<210> 67
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 67
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys
20

<210> 68
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 68
Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
1 5 10 15

<210> 69
<211> 32
<212> PRT
<213> Artificial Sequence

<220>

<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 69
Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys
20 25 30

<210> 70
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 70
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys
20

<210> 71
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 71
Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 72
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 72
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

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

<210> 73
<211> 256

<212> PRT
<213> Homo sapiens

<400> 73

```
Pro Ala Thr Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly
1               5                  10                  15

Val Cys Asp Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly
            20                  25                  30

Asp Cys Ser Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro
        35                  40                  45

Leu Pro Cys Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn
    50                  55                  60

Thr Val Glu Cys Leu Phe Asp Asn Phe Glu Cys Gln Gly Asn Ser Lys
65                  70                  75                  80

Thr Cys Lys Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His
                85                  90                  95

Cys Asp Gln Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp
            100                 105                 110

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

Val Val Leu Met Pro Pro Glu Gln Leu Leu Gln Asp Ala Arg Ser Phe
    130                 135                 140

Leu Arg Ala Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Arg
145                 150                 155                 160

Asp Ser Gln Gly Glu Leu Met Val Tyr Pro Tyr Tyr Gly Glu Lys Ser
                165                 170                 175

Ala Ala Met Lys Lys Gln Arg Met Thr Arg Arg Ser Leu Pro Gly Glu
            180                 185                 190

Gln Glu Gln Glu Val Ala Gly Ser Lys Val Phe Leu Glu Ile Asp Asn
        195                 200                 205

Arg Gln Cys Val Gln Asp Ser Asp His Cys Phe Lys Asn Thr Asp Ala
    210                 215                 220

Ala Ala Ala Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu Ser Tyr
225                 230                 235                 240

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

<210> 74
<211> 258
<212> PRT
<213> Mus sp.

<400> 74

```
Pro Ala Thr Cys Gln Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly
1               5                   10                  15

Ile Cys Asp Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly
            20                  25                  30

Asp Cys Ser Leu Thr Met Glu Asp Pro Trp Ala Asn Cys Thr Ser Thr
        35                  40                  45

Leu Arg Cys Trp Glu Tyr Ile Asn Asn Gln Cys Asp Glu Gln Cys Asn
    50                  55                  60

Thr Ala Glu Cys Leu Phe Asp Asn Phe Glu Cys Gln Arg Asn Ser Lys
65                  70                  75                  80

Thr Cys Lys Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His
                85                  90                  95

Cys Asp Gln Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp
            100                 105                 110

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

Val Val Leu Leu Pro Pro Glu Gln Leu Leu Gln Asp Ser Arg Ser Phe
    130                 135                 140

Leu Arg Ala Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Gln
145                 150                 155                 160

Asp Ser Gln Gly Ala Leu Met Val Tyr Pro Tyr Phe Gly Glu Lys Ser
                165                 170                 175

Ala Ala Met Lys Lys Gln Lys Met Thr Arg Arg Ser Leu Pro Glu Glu
            180                 185                 190

Gln Glu Gln Glu Gln Glu Val Ile Gly Ser Lys Ile Phe Leu Glu Ile
        195                 200                 205

Asp Asn Arg Gln Cys Val Gln Asp Ser Asp Gln Cys Phe Lys Asn Thr
    210                 215                 220

Asp Ala Ala Ala Ala Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu
225                 230                 235                 240

Ser Tyr Pro Leu Val Ser Val Phe Ser Glu Leu Glu Ser Pro Arg Asn
                245                 250                 255
```

Ala Gln

<210> 75
<211> 2471
<212> PRT
<213> Homo sapiens

<400> 75
Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp
1 5 10 15

Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
20 25 30

Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
35 40 45

Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
50 55 60

Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65 70 75 80

Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
85 90 95

Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
100 105 110

Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
115 120 125

Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys Gln Trp
130 135 140

Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr Cys Thr
145 150 155 160

Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe Thr Gly
165 170 175

Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys
180 185 190

Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln Cys Gln
195 200 205

Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr Val Pro
210 215 220

```
Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
225                 230                 235                 240

Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr
                245                 250                 255

Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln Asn Gly
            260                 265                 270

Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
        275                 280                 285

Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
    290                 295                 300

Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg Asn Gly
305                 310                 315                 320

Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
                325                 330                 335

Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
            340                 345                 350

Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu Gly Lys
        355                 360                 365

Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys
    370                 375                 380

His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile
385                 390                 395                 400

Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val
                405                 410                 415

Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys
            420                 425                 430

Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr
        435                 440                 445

Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro
    450                 455                 460

Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys
465                 470                 475                 480

Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Ile Asn
                485                 490                 495
```

```
Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys
            500                 505                 510

Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val
        515                 520                 525

Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly
    530                 535                 540

Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr
545                 550                 555                 560

Gly Phe Thr Gly Val Leu Cys Glu Glu Asn Ile Asp Asn Cys Asp Pro
                565                 570                 575

Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr
            580                 585                 590

Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile
        595                 600                 605

Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp
    610                 615                 620

Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Val
625                 630                 635                 640

Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Ile His
                645                 650                 655

Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro
            660                 665                 670

Gly Phe Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser
        675                 680                 685

Asn Pro Cys Arg Lys Gly Ala Thr Cys Ile Asn Gly Val Asn Gly Phe
    690                 695                 700

Arg Cys Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln
705                 710                 715                 720

Val Asn Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys Thr Gly
                725                 730                 735

Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Ile
            740                 745                 750

Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn
        755                 760                 765
```

```
Gly Gly Thr Cys Asp Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys
    770                 775                 780

Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala
785                 790                 795                 800

Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Ile Ser Gly
                805                 810                 815

Tyr Thr Cys His Cys Val Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr
            820                 825                 830

Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys
        835                 840                 845

Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala Pro Gly
    850                 855                 860

Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile Ser Lys
865                 870                 875                 880

Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser Tyr Met
                885                 890                 895

Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
            900                 905                 910

Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Met Asp
        915                 920                 925

Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr Gly Asp
    930                 935                 940

Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
945                 950                 955                 960

Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln
                965                 970                 975

Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr
            980                 985                 990

Glu Ser Ser Cys Phe Asn Gly Gly  Thr Cys Val Asp Gly  Ile Asn Ser
        995                 1000                1005

Phe Ser  Cys Leu Cys Pro Val  Gly Phe Thr Gly Ser  Phe Cys Leu
    1010                1015                1020

His Glu  Ile Asn Glu Cys Ser  Ser His Pro Cys Leu  Asn Glu Gly
    1025                1030                1035
```

```
Thr Cys  Val Asp Gly Leu Gly  Thr Tyr Arg Cys Ser  Cys Pro Leu
    1040                1045                1050

Gly Tyr  Thr Gly Lys Asn Cys  Gln Thr Leu Val Asn  Leu Cys Ser
    1055                1060                1065

Arg Ser  Pro Cys Lys Asn Lys  Gly Thr Cys Val Gln  Lys Lys Ala
    1070                1075                1080

Glu Ser  Gln Cys Leu Cys Pro  Ser Gly Trp Ala Gly  Ala Tyr Cys
    1085                1090                1095

Asp Val  Pro Asn Val Ser Cys  Asp Ile Ala Ala Ser  Arg Arg Gly
    1100                1105                1110

Val Leu  Val Glu His Leu Cys  Gln His Ser Gly Val  Cys Ile Asn
    1115                1120                1125

Ala Gly  Asn Thr His Tyr Cys  Gln Cys Pro Leu Gly  Tyr Thr Gly
    1130                1135                1140

Ser Tyr  Cys Glu Glu Gln Leu  Asp Glu Cys Ala Ser  Asn Pro Cys
    1145                1150                1155

Gln His  Gly Ala Thr Cys Ser  Asp Phe Ile Gly Gly  Tyr Arg Cys
    1160                1165                1170

Glu Cys  Val Pro Gly Tyr Gln  Gly Val Asn Cys Glu  Tyr Glu Val
    1175                1180                1185

Asp Glu  Cys Gln Asn Gln Pro  Cys Gln Asn Gly Gly  Thr Cys Ile
    1190                1195                1200

Asp Leu  Val Asn His Phe Lys  Cys Ser Cys Pro Pro  Gly Thr Arg
    1205                1210                1215

Gly Leu  Leu Cys Glu Glu Asn  Ile Asp Asp Cys Ala  Arg Gly Pro
    1220                1225                1230

His Cys  Leu Asn Gly Gly Gln  Cys Met Asp Arg Ile  Gly Gly Tyr
    1235                1240                1245

Ser Cys  Arg Cys Leu Pro Gly  Phe Ala Gly Glu Arg  Cys Glu Gly
    1250                1255                1260

Asp Ile  Asn Glu Cys Leu Ser  Asn Pro Cys Ser Ser  Glu Gly Ser
    1265                1270                1275

Leu Asp  Cys Ile Gln Leu Thr  Asn Asp Tyr Leu Cys  Val Cys Arg
    1280                1285                1290
```

```
Ser Ala  Phe Thr Gly Arg His  Cys Glu Thr Phe Val  Asp Val Cys
    1295                1300                1305

Pro Gln  Met Pro Cys Leu Asn  Gly Gly Thr Cys Ala  Val Ala Ser
    1310                1315                1320

Asn Met  Pro Asp Gly Phe Ile  Cys Arg Cys Pro Pro  Gly Phe Ser
    1325                1330                1335

Gly Ala  Arg Cys Gln Ser Ser  Cys Gly Gln Val Lys  Cys Arg Lys
    1340                1345                1350

Gly Glu  Gln Cys Val His Thr  Ala Ser Gly Pro Arg  Cys Phe Cys
    1355                1360                1365

Pro Ser  Pro Arg Asp Cys Glu  Ser Gly Cys Ala Ser  Ser Pro Cys
    1370                1375                1380

Gln His  Gly Gly Ser Cys His  Pro Gln Arg Gln Pro  Pro Tyr Tyr
    1385                1390                1395

Ser Cys  Gln Cys Ala Pro Pro  Phe Ser Gly Ser Arg  Cys Glu Leu
    1400                1405                1410

Tyr Thr  Ala Pro Pro Ser Thr  Pro Pro Ala Thr Cys  Leu Ser Gln
    1415                1420                1425

Tyr Cys  Ala Asp Lys Ala Arg  Asp Gly Val Cys Asp  Glu Ala Cys
    1430                1435                1440

Asn Ser  His Ala Cys Gln Trp  Asp Gly Gly Asp Cys  Ser Leu Thr
    1445                1450                1455

Met Glu  Asn Pro Trp Ala Asn  Cys Ser Ser Pro Leu  Pro Cys Trp
    1460                1465                1470

Asp Tyr  Ile Asn Asn Gln Cys  Asp Glu Leu Cys Asn  Thr Val Glu
    1475                1480                1485

Cys Leu  Phe Asp Asn Phe Glu  Cys Gln Gly Asn Ser  Lys Thr Cys
    1490                1495                1500

Lys Tyr  Asp Lys Tyr Cys Ala  Asp His Phe Lys Asp  Asn His Cys
    1505                1510                1515

Asp Gln  Gly Cys Asn Ser Glu  Glu Cys Gly Trp Asp  Gly Leu Asp
    1520                1525                1530

Cys Ala  Ala Asp Gln Pro Glu  Asn Leu Ala Glu Gly  Thr Leu Val
    1535                1540                1545
```

```
Ile Val  Val Leu Met Pro Pro  Glu Gln Leu Leu Gln  Asp Ala Arg
    1550                1555                1560

Ser Phe  Leu Arg Ala Leu Gly  Thr Leu Leu His Thr  Asn Leu Arg
    1565                1570                1575

Ile Lys  Arg Asp Ser Gln Gly  Glu Leu Met Val Tyr  Pro Tyr Tyr
    1580                1585                1590

Gly Glu  Lys Ser Ala Ala Met  Lys Lys Gln Arg Met  Thr Arg Arg
    1595                1600                1605

Ser Leu  Pro Gly Glu Gln Glu  Gln Glu Val Ala Gly  Ser Lys Val
    1610                1615                1620

Phe Leu  Glu Ile Asp Asn Arg  Gln Cys Val Gln Asp  Ser Asp His
    1625                1630                1635

Cys Phe  Lys Asn Thr Asp Ala  Ala Ala Ala Leu Leu  Ala Ser His
    1640                1645                1650

Ala Ile  Gln Gly Thr Leu Ser  Tyr Pro Leu Val Ser  Val Val Ser
    1655                1660                1665

Glu Ser  Leu Thr Pro Glu Arg  Thr Gln Leu Leu Tyr  Leu Leu Ala
    1670                1675                1680

Val Ala  Val Val Ile Ile Leu  Phe Ile Ile Leu Leu  Gly Val Ile
    1685                1690                1695

Met Ala  Lys Arg Lys Arg Lys  His Gly Ser Leu Trp  Leu Pro Glu
    1700                1705                1710

Gly Phe  Thr Leu Arg Arg Asp  Ala Ser Asn His Lys  Arg Arg Glu
    1715                1720                1725

Pro Val  Gly Gln Asp Ala Val  Gly Leu Lys Asn Leu  Ser Val Gln
    1730                1735                1740

Val Ser  Glu Ala Asn Leu Ile  Gly Thr Gly Thr Ser  Glu His Trp
    1745                1750                1755

Val Asp  Asp Glu Gly Pro Gln  Pro Lys Lys Val Lys  Ala Glu Asp
    1760                1765                1770

Glu Ala  Leu Leu Ser Glu Glu  Asp Asp Pro Ile Asp  Arg Arg Pro
    1775                1780                1785

Trp Thr  Gln Gln His Leu Glu  Ala Ala Asp Ile Arg  Arg Thr Pro
    1790                1795                1800
```

```
Ser Leu  Ala Leu Thr Pro Pro  Gln Ala Glu Gln Glu  Val Asp Val
    1805                 1810                 1815

Leu Asp  Val Asn Val Arg Gly  Pro Asp Gly Cys Thr  Pro Leu Met
    1820                 1825                 1830

Leu Ala  Ser Leu Arg Gly Gly  Ser Ser Asp Leu Ser  Asp Glu Asp
    1835                 1840                 1845

Glu Asp  Ala Glu Asp Ser Ser  Ala Asn Ile Ile Thr  Asp Leu Val
    1850                 1855                 1860

Tyr Gln  Gly Ala Ser Leu Gln  Ala Gln Thr Asp Arg  Thr Gly Glu
    1865                 1870                 1875

Met Ala  Leu His Leu Ala Ala  Arg Tyr Ser Arg Ala  Asp Ala Ala
    1880                 1885                 1890

Lys Arg  Leu Leu Asp Ala Gly  Ala Asp Ala Asn Ala  Gln Asp Asn
    1895                 1900                 1905

Met Gly  Arg Cys Pro Leu His  Ala Ala Val Ala Ala  Asp Ala Gln
    1910                 1915                 1920

Gly Val  Phe Gln Ile Leu Ile  Arg Asn Arg Val Thr  Asp Leu Asp
    1925                 1930                 1935

Ala Arg  Met Asn Asp Gly Thr  Thr Pro Leu Ile Leu  Ala Ala Arg
    1940                 1945                 1950

Leu Ala  Val Glu Gly Met Val  Ala Glu Leu Ile Asn  Cys Gln Ala
    1955                 1960                 1965

Asp Val  Asn Ala Val Asp Asp  His Gly Lys Ser Ala  Leu His Trp
    1970                 1975                 1980

Ala Ala  Ala Val Asn Asn Val  Glu Ala Thr Leu Leu  Leu Leu Lys
    1985                 1990                 1995

Asn Gly  Ala Asn Arg Asp Met  Gln Asp Asn Lys Glu  Glu Thr Pro
    2000                 2005                 2010

Leu Phe  Leu Ala Ala Arg Glu  Gly Ser Tyr Glu Ala  Ala Lys Ile
    2015                 2020                 2025

Leu Leu  Asp His Phe Ala Asn  Arg Asp Ile Thr Asp  His Met Asp
    2030                 2035                 2040

Arg Leu  Pro Arg Asp Val Ala  Arg Asp Arg Met His  His Asp Ile
    2045                 2050                 2055
```

```
Val Arg  Leu Leu Asp Glu Tyr  Asn Val Thr Pro Ser  Pro Pro Gly
    2060                2065                2070

Thr Val  Leu Thr Ser Ala Leu  Ser Pro Val Ile Cys  Gly Pro Asn
    2075                2080                2085

Arg Ser  Phe Leu Ser Leu Lys  His Thr Pro Met Gly  Lys Lys Ser
    2090                2095                2100

Arg Arg  Pro Ser Ala Lys Ser  Thr Met Pro Thr Ser  Leu Pro Asn
    2105                2110                2115

Leu Ala  Lys Glu Ala Lys Asp  Ala Lys Gly Ser Arg  Arg Lys Lys
    2120                2125                2130

Ser Leu  Ser Glu Lys Val Gln  Leu Ser Glu Ser Ser  Val Thr Leu
    2135                2140                2145

Ser Pro  Val Asp Ser Leu Glu  Ser Pro His Thr Tyr  Val Ser Asp
    2150                2155                2160

Thr Thr  Ser Ser Pro Met Ile  Thr Ser Pro Gly Ile  Leu Gln Ala
    2165                2170                2175

Ser Pro  Asn Pro Met Leu Ala  Thr Ala Ala Pro Pro  Ala Pro Val
    2180                2185                2190

His Ala  Gln His Ala Leu Ser  Phe Ser Asn Leu His  Glu Met Gln
    2195                2200                2205

Pro Leu  Ala His Gly Ala Ser  Thr Val Leu Pro Ser  Val Ser Gln
    2210                2215                2220

Leu Leu  Ser His His His Ile  Val Ser Pro Gly Ser  Gly Ser Ala
    2225                2230                2235

Gly Ser  Leu Ser Arg Leu His  Pro Val Pro Val Pro  Ala Asp Trp
    2240                2245                2250

Met Asn  Arg Met Glu Val Asn  Glu Thr Gln Tyr Asn  Glu Met Phe
    2255                2260                2265

Gly Met  Val Leu Ala Pro Ala  Glu Gly Thr His Pro  Gly Ile Ala
    2270                2275                2280

Pro Gln  Ser Arg Pro Pro Glu  Gly Lys His Ile Thr  Thr Pro Arg
    2285                2290                2295

Glu Pro  Leu Pro Pro Ile Val  Thr Phe Gln Leu Ile  Pro Lys Gly
    2300                2305                2310
```

```
Ser Ile  Ala Gln Pro Ala Gly  Ala Pro Gln Pro Gln  Ser Thr Cys
    2315                 2320                 2325

Pro Pro  Ala Val Ala Gly Pro  Leu Pro Thr Met Tyr  Gln Ile Pro
    2330                 2335                 2340

Glu Met  Ala Arg Leu Pro Ser  Val Ala Phe Pro Thr  Ala Met Met
    2345                 2350                 2355

Pro Gln  Gln Asp Gly Gln Val  Ala Gln Thr Ile Leu  Pro Ala Tyr
    2360                 2365                 2370

His Pro  Phe Pro Ala Ser Val  Gly Lys Tyr Pro Thr  Pro Pro Ser
    2375                 2380                 2385

Gln His  Ser Tyr Ala Ser Ser  Asn Ala Ala Glu Arg  Thr Pro Ser
    2390                 2395                 2400

His Ser  Gly His Leu Gln Gly  Glu His Pro Tyr Leu  Thr Pro Ser
    2405                 2410                 2415

Pro Glu  Ser Pro Asp Gln Trp  Ser Ser Ser Ser Pro  His Ser Ala
    2420                 2425                 2430

Ser Asp  Trp Ser Asp Val Thr  Thr Ser Pro Thr Pro  Gly Gly Ala
    2435                 2440                 2445

Gly Gly  Gly Gln Arg Gly Pro  Gly Thr His Met Ser  Glu Pro Pro
    2450                 2455                 2460

His Asn  Asn Met Gln Val Tyr  Ala
    2465                 2470


<210> 76
<211> 1180
<212> PRT
<213> Homo sapiens

<400> 76
Met Pro Asp Leu Arg Pro Ala Ala Leu Arg Ala Leu Leu Trp Leu Trp
1               5                  10                  15

Leu Cys Gly Ala Gly Pro Ala His Ala Leu Gln Cys Arg Gly Gly Gln
            20                  25                  30

Glu Pro Cys Val Asn Glu Gly Thr Cys Val Thr Tyr His Asn Gly Thr
        35                  40                  45

Gly Phe Cys Arg Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
    50                  55                  60

Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65                  70                  75                  80
```

```
Pro Gln Gly Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Pro Gly Phe
                85                  90                  95

Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
            100                 105                 110

Arg Pro Cys Gln Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
        115                 120                 125

Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Gln Cys Gln Trp
    130                 135                 140

Thr Asp Ala Cys Leu Ser His Pro Cys Glu Asn Gly Ser Thr Cys Thr
145                 150                 155                 160

Ser Val Ala Ser Gln Phe Ser Cys Lys Cys Pro Ala Gly Leu Thr Gly
                165                 170                 175

Gln Lys Cys Glu Ala Asp Ile Asn Glu Cys Asp Ile Pro Gly Arg Cys
            180                 185                 190

Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Arg Cys Gln
        195                 200                 205

Cys Gly Gln Gly Phe Thr Gly Gln His Cys Asp Ser Pro Tyr Val Arg
    210                 215                 220

Gly Leu Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly Asp Phe
225                 230                 235                 240

Thr Leu Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr Cys Glu
                245                 250                 255

Arg Asn Ile Asp Asp Cys Pro Asn His Lys Cys Gln Asn Gly Gly Val
            260                 265                 270

Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro Gln Trp
        275                 280                 285

Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu Gln Pro
    290                 295                 300

Asn Ala Cys Gln Asn Gly Gly Thr Cys Thr Asn Arg Asn Gly Gly Tyr
305                 310                 315                 320

Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser Glu Asn
                325                 330                 335

Ile Asp Asp Cys Ala Tyr Ala Ser Cys Thr Pro Gly Ser Thr Cys Ile
            340                 345                 350
```

```
Asp Arg Val Ala Ser Phe Ser Cys Leu Cys Pro Glu Gly Lys Ala Gly
        355                 360                 365

Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn Pro Cys His Lys
    370                 375                 380

Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln Tyr Ile Cys Thr
385                 390                 395                 400

Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val Asp Glu
                405                 410                 415

Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys Cys Val
            420                 425                 430

Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr Ala Gly
        435                 440                 445

Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro Cys Gln
    450                 455                 460

Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys Leu Cys
465                 470                 475                 480

Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Val Asn Glu Cys
                485                 490                 495

Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys Val Asn
            500                 505                 510

Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val Cys Gln
        515                 520                 525

Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly Ala Lys
    530                 535                 540

Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr Gly Phe
545                 550                 555                 560

Thr Gly Ile Leu Cys Asp Glu Asn Ile Asp Asn Cys Asp Pro Asp Pro
                565                 570                 575

Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr Cys Ile
            580                 585                 590

Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile Asp Glu
        595                 600                 605

Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp Leu Val
    610                 615                 620
```

```
Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Leu Asn Cys
625                 630                 635                 640

Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Met His Gly Val
                645                 650                 655

Cys Val Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro Gly Phe
            660                 665                 670

Thr Gly Gln Arg Cys Asn Ile Asp Ile Asp Glu Cys Ala Ser Asn Pro
        675                 680                 685

Cys Arg Lys Gly Ala Thr Cys Ile Asn Asp Val Asn Gly Phe Arg Cys
    690                 695                 700

Ile Cys Pro Glu Gly Pro His His Pro Ser Cys Tyr Ser Gln Val Asn
705                 710                 715                 720

Glu Cys Leu Ser Asn Pro Cys Ile His Gly Asn Cys Thr Gly Gly Leu
                725                 730                 735

Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Val Asn Cys
            740                 745                 750

Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn Gly Gly
        755                 760                 765

Thr Cys Asn Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys Lys Gly
    770                 775                 780

Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala Ser Asn
785                 790                 795                 800

Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Val Ser Gly Tyr Thr
                805                 810                 815

Cys His Cys Met Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr Val Leu
            820                 825                 830

Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys Lys Glu
        835                 840                 845

Ala Pro Asn Phe Glu Ser Phe Ser Cys Leu Cys Ala Pro Gly Trp Gln
    850                 855                 860

Gly Lys Arg Cys Thr Val Asp Val Asp Glu Cys Ile Ser Lys Pro Cys
865                 870                 875                 880

Met Asn Asn Gly Val Cys His Asn Thr Gln Gly Ser Tyr Val Cys Glu
                885                 890                 895
```

```
Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile Asn Asp
            900                 905                 910

Cys Leu Ala Asn Pro Cys Gln Asn Gly Gly Ser Cys Val Asp His Val
        915                 920                 925

Asn Thr Phe Ser Cys Gln Cys His Pro Gly Phe Ile Gly Asp Lys Cys
    930                 935                 940

Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn Gly Gly
945                 950                 955                 960

Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Thr Cys Pro Ala Gly
                965                 970                 975

Phe His Gly Val His Cys Glu Asn Asn Ile Asp Glu Cys Thr Glu Ser
            980                 985                 990

Ser Cys Phe Asn Gly Gly Thr Cys  Val Asp Gly Ile Asn  Ser Phe Ser
        995                 1000                1005

Cys Leu  Cys Pro Val Gly Phe  Thr Gly Pro Phe Cys  Leu His Asp
    1010                1015                1020

Ile Asn  Glu Cys Ser Ser Asn  Pro Cys Leu Asn Ala  Gly Thr Cys
    1025                1030                1035

Val Asp  Gly Leu Gly Thr Tyr  Arg Cys Ile Cys Pro  Leu Gly Tyr
    1040                1045                1050

Thr Gly  Lys Asn Cys Gln Thr  Leu Val Asn Leu Cys  Ser Arg Ser
    1055                1060                1065

Pro Cys  Lys Asn Lys Gly Thr  Cys Val Gln Glu Lys  Ala Arg Pro
    1070                1075                1080

His Cys  Leu Cys Pro Pro Gly  Trp Asp Gly Ala Tyr  Cys Asp Val
    1085                1090                1095

Leu Asn  Val Ser Cys Lys Ala  Ala Ala Leu Gln Lys  Gly Val Pro
    1100                1105                1110

Val Glu  His Leu Cys Gln His  Ser Gly Ile Cys Ile  Asn Ala Gly
    1115                1120                1125

Asn Thr  His His Cys Gln Cys  Pro Leu Gly Tyr Thr  Gly Ser Tyr
    1130                1135                1140

Cys Glu  Glu Gln Leu Asp Glu  Cys Ala Ser Asn Pro  Cys Gln His
    1145                1150                1155
```

Gly Ala Thr Cys Asn Asp Phe Ile Gly Gly Tyr Arg Cys Glu Cys
1160 1165 1170

Val Pro Gly Tyr Gln Gly Val
1175 1180

<210> 77
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 77
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
1 5 10

<210> 78
<211> 1218
<212> PRT
<213> Homo sapiens

<400> 78
Met Arg Ser Pro Arg Thr Arg Gly Arg Ser Gly Arg Pro Leu Ser Leu
1 5 10 15

Leu Leu Ala Leu Leu Cys Ala Leu Arg Ala Lys Val Cys Gly Ala Ser
20 25 30

Gly Gln Phe Glu Leu Glu Ile Leu Ser Met Gln Asn Val Asn Gly Glu
35 40 45

Leu Gln Asn Gly Asn Cys Cys Gly Gly Ala Arg Asn Pro Gly Asp Arg
50 55 60

Lys Cys Thr Arg Asp Glu Cys Asp Thr Tyr Phe Lys Val Cys Leu Lys
65 70 75 80

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

Gly Ser Thr Pro Val Ile Gly Gly Asn Thr Phe Asn Leu Lys Ala Ser
100 105 110

Arg Gly Asn Asp Arg Asn Arg Ile Val Leu Pro Phe Ser Phe Ala Trp
115 120 125

Pro Arg Ser Tyr Thr Leu Leu Val Glu Ala Trp Asp Ser Ser Asn Asp
130 135 140

Thr Val Gln Pro Asp Ser Ile Ile Glu Lys Ala Ser His Ser Gly Met

```
145                 150                 155                 160

Ile Asn Pro Ser Arg Gln Trp Gln Thr Leu Lys Gln Asn Thr Gly Val
                165                 170                 175

Ala His Phe Glu Tyr Gln Ile Arg Val Thr Cys Asp Asp Tyr Tyr Tyr
            180                 185                 190

Gly Phe Gly Cys Asn Lys Phe Cys Arg Pro Arg Asp Asp Phe Phe Gly
        195                 200                 205

His Tyr Ala Cys Asp Gln Asn Gly Asn Lys Thr Cys Met Glu Gly Trp
    210                 215                 220

Met Gly Pro Glu Cys Asn Arg Ala Ile Cys Arg Gln Gly Cys Ser Pro
225                 230                 235                 240

Lys His Gly Ser Cys Lys Leu Pro Gly Asp Cys Arg Cys Gln Tyr Gly
                245                 250                 255

Trp Gln Gly Leu Tyr Cys Asp Lys Cys Ile Pro His Pro Gly Cys Val
            260                 265                 270

His Gly Ile Cys Asn Glu Pro Trp Gln Cys Leu Cys Glu Thr Asn Trp
        275                 280                 285

Gly Gly Gln Leu Cys Asp Lys Asp Leu Asn Tyr Cys Gly Thr His Gln
    290                 295                 300

Pro Cys Leu Asn Gly Gly Thr Cys Ser Asn Thr Gly Pro Asp Lys Tyr
305                 310                 315                 320

Gln Cys Ser Cys Pro Glu Gly Tyr Ser Gly Pro Asn Cys Glu Ile Ala
                325                 330                 335

Glu His Ala Cys Leu Ser Asp Pro Cys His Asn Arg Gly Ser Cys Lys
            340                 345                 350

Glu Thr Ser Leu Gly Phe Glu Cys Glu Cys Ser Pro Gly Trp Thr Gly
        355                 360                 365

Pro Thr Cys Ser Thr Asn Ile Asp Asp Cys Ser Pro Asn Asn Cys Ser
    370                 375                 380

His Gly Gly Thr Cys Gln Asp Leu Val Asn Gly Phe Lys Cys Val Cys
385                 390                 395                 400

Pro Pro Gln Trp Thr Gly Lys Thr Cys Gln Leu Asp Ala Asn Glu Cys
                405                 410                 415

Glu Ala Lys Pro Cys Val Asn Ala Lys Ser Cys Lys Asn Leu Ile Ala
```

```
            420                 425                 430

Ser Tyr Tyr Cys Asp Cys Leu Pro Gly Trp Met Gly Gln Asn Cys Asp
        435                 440                 445

Ile Asn Ile Asn Asp Cys Leu Gly Gln Cys Gln Asn Asp Ala Ser Cys
    450                 455                 460

Arg Asp Leu Val Asn Gly Tyr Arg Cys Ile Cys Pro Pro Gly Tyr Ala
465                 470                 475                 480

Gly Asp His Cys Glu Arg Asp Ile Asp Glu Cys Ala Ser Asn Pro Cys
                485                 490                 495

Leu Asn Gly Gly His Cys Gln Asn Glu Ile Asn Arg Phe Gln Cys Leu
            500                 505                 510

Cys Pro Thr Gly Phe Ser Gly Asn Leu Cys Gln Leu Asp Ile Asp Tyr
        515                 520                 525

Cys Glu Pro Asn Pro Cys Gln Asn Gly Ala Gln Cys Tyr Asn Arg Ala
    530                 535                 540

Ser Asp Tyr Phe Cys Lys Cys Pro Glu Asp Tyr Glu Gly Lys Asn Cys
545                 550                 555                 560

Ser His Leu Lys Asp His Cys Arg Thr Thr Pro Cys Glu Val Ile Asp
                565                 570                 575

Ser Cys Thr Val Ala Met Ala Ser Asn Asp Thr Pro Glu Gly Val Arg
            580                 585                 590

Tyr Ile Ser Ser Asn Val Cys Gly Pro His Gly Lys Cys Lys Ser Gln
        595                 600                 605

Ser Gly Gly Lys Phe Thr Cys Asp Cys Asn Lys Gly Phe Thr Gly Thr
    610                 615                 620

Tyr Cys His Glu Asn Ile Asn Asp Cys Glu Ser Asn Pro Cys Arg Asn
625                 630                 635                 640

Gly Gly Thr Cys Ile Asp Gly Val Asn Ser Tyr Lys Cys Ile Cys Ser
                645                 650                 655

Asp Gly Trp Glu Gly Ala Tyr Cys Glu Thr Asn Ile Asn Asp Cys Ser
            660                 665                 670

Gln Asn Pro Cys His Asn Gly Gly Thr Cys Arg Asp Leu Val Asn Asp
        675                 680                 685

Phe Tyr Cys Asp Cys Lys Asn Gly Trp Lys Gly Lys Thr Cys His Ser
```

690 695 700

Arg Asp Ser Gln Cys Asp Glu Ala Thr Cys Asn Asn Gly Gly Thr Cys
705 710 715 720

Tyr Asp Glu Gly Asp Ala Phe Lys Cys Met Cys Pro Gly Gly Trp Glu
725 730 735

Gly Thr Thr Cys Asn Ile Ala Arg Asn Ser Ser Cys Leu Pro Asn Pro
740 745 750

Cys His Asn Gly Gly Thr Cys Val Val Asn Gly Glu Ser Phe Thr Cys
755 760 765

Val Cys Lys Glu Gly Trp Glu Gly Pro Ile Cys Ala Gln Asn Thr Asn
770 775 780

Asp Cys Ser Pro His Pro Cys Tyr Asn Ser Gly Thr Cys Val Asp Gly
785 790 795 800

Asp Asn Trp Tyr Arg Cys Glu Cys Ala Pro Gly Phe Ala Gly Pro Asp
805 810 815

Cys Arg Ile Asn Ile Asn Glu Cys Gln Ser Ser Pro Cys Ala Phe Gly
820 825 830

Ala Thr Cys Val Asp Glu Ile Asn Gly Tyr Arg Cys Val Cys Pro Pro
835 840 845

Gly His Ser Gly Ala Lys Cys Gln Glu Val Ser Gly Arg Pro Cys Ile
850 855 860

Thr Met Gly Ser Val Ile Pro Asp Gly Ala Lys Trp Asp Asp Asp Cys
865 870 875 880

Asn Thr Cys Gln Cys Leu Asn Gly Arg Ile Ala Cys Ser Lys Val Trp
885 890 895

Cys Gly Pro Arg Pro Cys Leu Leu His Lys Gly His Ser Glu Cys Pro
900 905 910

Ser Gly Gln Ser Cys Ile Pro Ile Leu Asp Asp Gln Cys Phe Val His
915 920 925

Pro Cys Thr Gly Val Gly Glu Cys Arg Ser Ser Ser Leu Gln Pro Val
930 935 940

Lys Thr Lys Cys Thr Ser Asp Ser Tyr Tyr Gln Asp Asn Cys Ala Asn
945 950 955 960

Ile Thr Phe Thr Phe Asn Lys Glu Met Met Ser Pro Gly Leu Thr Thr

965 970 975

Glu His Ile Cys Ser Glu Leu Arg Asn Leu Asn Ile Leu Lys Asn Val
980 985 990

Ser Ala Glu Tyr Ser Ile Tyr Ile Ala Cys Glu Pro Ser Pro Ser Ala
995 1000 1005

Asn Asn Glu Ile His Val Ala Ile Ser Ala Glu Asp Ile Arg Asp
1010 1015 1020

Asp Gly Asn Pro Ile Lys Glu Ile Thr Asp Lys Ile Ile Asp Leu
1025 1030 1035

Val Ser Lys Arg Asp Gly Asn Ser Ser Leu Ile Ala Ala Val Ala
1040 1045 1050

Glu Val Arg Val Gln Arg Arg Pro Leu Lys Asn Arg Thr Asp Phe
1055 1060 1065

Leu Val Pro Leu Leu Ser Ser Val Leu Thr Val Ala Trp Ile Cys
1070 1075 1080

Cys Leu Val Thr Ala Phe Tyr Trp Cys Leu Arg Lys Arg Arg Lys
1085 1090 1095

Pro Gly Ser His Thr His Ser Ala Ser Glu Asp Asn Thr Thr Asn
1100 1105 1110

Asn Val Arg Glu Gln Leu Asn Gln Ile Lys Asn Pro Ile Glu Lys
1115 1120 1125

His Gly Ala Asn Thr Val Pro Ile Lys Asp Tyr Glu Asn Lys Asn
1130 1135 1140

Ser Lys Met Ser Lys Ile Arg Thr His Asn Ser Glu Val Glu Glu
1145 1150 1155

Asp Asp Met Asp Lys His Gln Gln Lys Ala Arg Phe Ala Lys Gln
1160 1165 1170

Pro Ala Tyr Thr Leu Val Asp Arg Glu Glu Lys Pro Pro Asn Gly
1175 1180 1185

Thr Pro Thr Lys His Pro Asn Trp Thr Asn Lys Gln Asp Asn Arg
1190 1195 1200

Asp Leu Glu Ser Ala Gln Ser Leu Asn Arg Met Glu Tyr Ile Val
1205 1210 1215

<210> 79

<211> 1218
<212> PRT
<213> Mus sp.

<400> 79

```
Met Arg Ser Pro Arg Thr Arg Gly Arg Pro Gly Arg Pro Leu Ser Leu
1               5                  10                  15

Leu Leu Ala Leu Leu Cys Ala Leu Arg Ala Lys Val Cys Gly Ala Ser
            20                  25                  30

Gly Gln Phe Glu Leu Glu Ile Leu Ser Met Gln Asn Val Asn Gly Glu
        35                  40                  45

Leu Gln Asn Gly Asn Cys Cys Gly Gly Val Arg Asn Pro Gly Asp Arg
    50                  55                  60

Lys Cys Thr Arg Asp Glu Cys Asp Thr Tyr Phe Lys Val Cys Leu Lys
65                  70                  75                  80

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

Gly Ser Thr Pro Val Ile Gly Gly Asn Thr Phe Asn Leu Lys Ala Ser
            100                 105                 110

Arg Gly Asn Asp Arg Asn Arg Ile Val Leu Pro Phe Ser Phe Ala Trp
        115                 120                 125

Pro Arg Ser Tyr Thr Leu Leu Val Glu Ala Trp Asp Ser Ser Asn Asp
    130                 135                 140

Thr Ile Gln Pro Asp Ser Ile Ile Glu Lys Ala Ser His Ser Gly Met
145                 150                 155                 160

Ile Asn Pro Ser Arg Gln Trp Gln Thr Leu Lys Gln Asn Thr Gly Ile
                165                 170                 175

Ala His Phe Glu Tyr Gln Ile Arg Val Thr Cys Asp Asp His Tyr Tyr
            180                 185                 190

Gly Phe Gly Cys Asn Lys Phe Cys Arg Pro Arg Asp Asp Phe Phe Gly
        195                 200                 205

His Tyr Ala Cys Asp Gln Asn Gly Asn Lys Thr Cys Met Glu Gly Trp
    210                 215                 220

Met Gly Pro Asp Cys Asn Lys Ala Ile Cys Arg Gln Gly Cys Ser Pro
225                 230                 235                 240

Lys His Gly Ser Cys Lys Leu Pro Gly Asp Cys Arg Cys Gln Tyr Gly
                245                 250                 255
```

```
Trp Gln Gly Leu Tyr Cys Asp Lys Cys Ile Pro His Pro Gly Cys Val
            260                 265                 270

His Gly Thr Cys Asn Glu Pro Trp Gln Cys Leu Cys Glu Thr Asn Trp
        275                 280                 285

Gly Gly Gln Leu Cys Asp Lys Asp Leu Asn Tyr Cys Gly Thr His Gln
    290                 295                 300

Pro Cys Leu Asn Arg Gly Thr Cys Ser Asn Thr Gly Pro Asp Lys Tyr
305                 310                 315                 320

Gln Cys Ser Cys Pro Glu Gly Tyr Ser Gly Pro Asn Cys Glu Ile Ala
                325                 330                 335

Glu His Ala Cys Leu Ser Asp Pro Cys His Asn Arg Gly Ser Cys Lys
            340                 345                 350

Glu Thr Ser Ser Gly Phe Glu Cys Glu Cys Ser Pro Gly Trp Thr Gly
        355                 360                 365

Pro Thr Cys Ser Thr Asn Ile Asp Asp Cys Ser Pro Asn Asn Cys Ser
    370                 375                 380

His Gly Gly Thr Cys Gln Asp Leu Val Asn Gly Phe Lys Cys Val Cys
385                 390                 395                 400

Pro Pro Gln Trp Thr Gly Lys Thr Cys Gln Leu Asp Ala Asn Glu Cys
                405                 410                 415

Glu Ala Lys Pro Cys Val Asn Ala Arg Ser Cys Lys Asn Leu Ile Ala
            420                 425                 430

Ser Tyr Tyr Cys Asp Cys Leu Pro Gly Trp Met Gly Gln Asn Cys Asp
        435                 440                 445

Ile Asn Ile Asn Asp Cys Leu Gly Gln Cys Gln Asn Asp Ala Ser Cys
    450                 455                 460

Arg Asp Leu Val Asn Gly Tyr Arg Cys Ile Cys Pro Pro Gly Tyr Ala
465                 470                 475                 480

Gly Asp His Cys Glu Arg Asp Ile Asp Glu Cys Ala Ser Asn Pro Cys
                485                 490                 495

Leu Asn Gly Gly His Cys Gln Asn Glu Ile Asn Arg Phe Gln Cys Leu
            500                 505                 510

Cys Pro Thr Gly Phe Ser Gly Asn Leu Cys Gln Leu Asp Ile Asp Tyr
        515                 520                 525
```

```
Cys Glu Pro Asn Pro Cys Gln Asn Gly Ala Gln Cys Tyr Asn Arg Ala
    530                 535                 540

Ser Asp Tyr Phe Cys Lys Cys Pro Glu Asp Tyr Glu Gly Lys Asn Cys
545                 550                 555                 560

Ser His Leu Lys Asp His Cys Arg Thr Thr Thr Cys Glu Val Ile Asp
                565                 570                 575

Ser Cys Thr Val Ala Met Ala Ser Asn Asp Thr Pro Glu Gly Val Arg
            580                 585                 590

Tyr Ile Ser Ser Asn Val Cys Gly Pro His Gly Lys Cys Lys Ser Gln
        595                 600                 605

Ser Gly Gly Lys Phe Thr Cys Asp Cys Asn Lys Gly Phe Thr Gly Thr
    610                 615                 620

Tyr Cys His Glu Asn Ile Asn Asp Cys Glu Ser Asn Pro Cys Lys Asn
625                 630                 635                 640

Gly Gly Thr Cys Ile Asp Gly Val Asn Ser Tyr Lys Cys Ile Cys Ser
                645                 650                 655

Asp Gly Trp Glu Gly Ala His Cys Glu Asn Asn Ile Asn Asp Cys Ser
            660                 665                 670

Gln Asn Pro Cys His Tyr Gly Gly Thr Cys Arg Asp Leu Val Asn Asp
        675                 680                 685

Phe Tyr Cys Asp Cys Lys Asn Gly Trp Lys Gly Lys Thr Cys His Ser
    690                 695                 700

Arg Asp Ser Gln Cys Asp Glu Ala Thr Cys Asn Asn Gly Gly Thr Cys
705                 710                 715                 720

Tyr Asp Glu Val Asp Thr Phe Lys Cys Met Cys Pro Gly Gly Trp Glu
                725                 730                 735

Gly Thr Thr Cys Asn Ile Ala Arg Asn Ser Ser Cys Leu Pro Asn Pro
            740                 745                 750

Cys His Asn Gly Gly Thr Cys Val Val Asn Gly Asp Ser Phe Thr Cys
        755                 760                 765

Val Cys Lys Glu Gly Trp Glu Gly Pro Ile Cys Thr Gln Asn Thr Asn
    770                 775                 780

Asp Cys Ser Pro His Pro Cys Tyr Asn Ser Gly Thr Cys Val Asp Gly
785                 790                 795                 800
```

```
Asp Asn Trp Tyr Arg Cys Glu Cys Ala Pro Gly Phe Ala Gly Pro Asp
                805                 810                 815

Cys Arg Ile Asn Ile Asn Glu Cys Gln Ser Ser Pro Cys Ala Phe Gly
            820                 825                 830

Ala Thr Cys Val Asp Glu Ile Asn Gly Tyr Gln Cys Ile Cys Pro Pro
        835                 840                 845

Gly His Ser Gly Ala Lys Cys His Glu Val Ser Gly Arg Ser Cys Ile
    850                 855                 860

Thr Met Gly Arg Val Ile Leu Asp Gly Ala Lys Trp Asp Asp Asp Cys
865                 870                 875                 880

Asn Thr Cys Gln Cys Leu Asn Gly Arg Val Ala Cys Ser Lys Val Trp
                885                 890                 895

Cys Gly Pro Arg Pro Cys Arg Leu His Lys Ser His Asn Glu Cys Pro
            900                 905                 910

Ser Gly Gln Ser Cys Ile Pro Val Leu Asp Asp Gln Cys Phe Val Arg
        915                 920                 925

Pro Cys Thr Gly Val Gly Glu Cys Arg Ser Ser Ser Leu Gln Pro Val
    930                 935                 940

Lys Thr Lys Cys Thr Ser Asp Ser Tyr Tyr Gln Asp Asn Cys Ala Asn
945                 950                 955                 960

Ile Thr Phe Thr Phe Asn Lys Glu Met Met Ser Pro Gly Leu Thr Thr
                965                 970                 975

Glu His Ile Cys Ser Glu Leu Arg Asn Leu Asn Ile Leu Lys Asn Val
            980                 985                 990

Ser Ala Glu Tyr Ser Ile Tyr Ile  Ala Cys Glu Pro Ser  Leu Ser Ala
        995                 1000                1005

Asn Asn  Glu Ile His Val Ala  Ile Ser Ala Glu Asp  Ile Arg Asp
    1010                1015                1020

Asp Gly  Asn Pro Val Lys Glu  Ile Thr Asp Lys Ile  Ile Asp Leu
    1025                1030                1035

Val Ser  Lys Arg Asp Gly Asn  Ser Ser Leu Ile Ala  Ala Val Ala
    1040                1045                1050

Glu Val  Arg Val Gln Arg Arg  Pro Leu Lys Asn Arg  Thr Asp Phe
    1055                1060                1065
```

```
Leu Val  Pro Leu Leu Ser Ser  Val Leu Thr Val Ala  Trp Val Cys
    1070                1075                1080


Cys Leu  Val Thr Ala Phe Tyr  Trp Cys Val Arg Lys  Arg Arg Lys
    1085                1090                1095


Pro Ser  Ser His Thr His Ser  Ala Pro Glu Asp Asn  Thr Thr Asn
    1100                1105                1110


Asn Val  Arg Glu Gln Leu Asn  Gln Ile Lys Asn Pro  Ile Glu Lys
    1115                1120                1125


His Gly  Ala Asn Thr Val Pro  Ile Lys Asp Tyr Glu  Asn Lys Asn
    1130                1135                1140


Ser Lys  Met Ser Lys Ile Arg  Thr His Asn Ser Glu  Val Glu Glu
    1145                1150                1155


Asp Asp  Met Asp Lys His Gln  Gln Lys Val Arg Phe  Ala Lys Gln
    1160                1165                1170


Pro Val  Tyr Thr Leu Val Asp  Arg Glu Glu Lys Ala  Pro Ser Gly
    1175                1180                1185


Thr Pro  Thr Lys His Pro Asn  Trp Thr Asn Lys Gln  Asp Asn Arg
    1190                1195                1200


Asp Leu  Glu Ser Ala Gln Ser  Leu Asn Arg Met Glu  Tyr Ile Val
    1205                1210                1215
```

<210> 80
<211> 365
<212> PRT
<213> Mus sp.

<400> 80

```
Ala Asp Leu Gly Ser Gln Phe Glu Leu Glu Ile Leu Ser Met Gln Asn
1               5                  10                  15


Val Asn Gly Glu Leu Gln Asn Gly Asn Cys Cys Gly Gly Val Arg Asn
            20                  25                  30


Pro Gly Asp Arg Lys Cys Thr Arg Asp Glu Cys Asp Thr Tyr Phe Lys
        35                  40                  45


Val Cys Leu Lys Glu Tyr Gln Ser Arg Val Thr Ala Gly Gly Pro Cys
    50                  55                  60


Ser Phe Gly Ser Gly Ser Thr Pro Val Ile Gly Gly Asn Thr Phe Asn
65                  70                  75                  80


Leu Lys Ala Ser Arg Gly Asn Asp Arg Asn Arg Ile Val Leu Pro Phe
```

85 90 95

Ser Phe Ala Trp Pro Arg Ser Tyr Thr Leu Leu Val Glu Ala Trp Asp
100 105 110

Ser Ser Asn Asp Thr Ile Gln Pro Asp Ser Ile Ile Glu Lys Ala Ser
115 120 125

His Ser Gly Met Ile Asn Pro Ser Arg Gln Trp Gln Thr Leu Lys Gln
130 135 140

Asn Thr Gly Ile Ala His Phe Glu Tyr Gln Ile Arg Val Thr Cys Asp
145 150 155 160

Asp His Tyr Tyr Gly Phe Gly Cys Asn Lys Phe Cys Arg Pro Arg Asp
165 170 175

Asp Phe Phe Gly His Tyr Ala Cys Asp Gln Asn Gly Asn Lys Thr Cys
180 185 190

Met Glu Gly Trp Met Gly Pro Asp Cys Asn Lys Ala Ile Cys Arg Gln
195 200 205

Gly Cys Ser Pro Lys His Gly Ser Cys Lys Leu Pro Gly Asp Cys Arg
210 215 220

Cys Gln Tyr Gly Trp Gln Gly Leu Tyr Cys Asp Lys Cys Ile Pro His
225 230 235 240

Pro Gly Cys Val His Gly Thr Cys Asn Glu Pro Trp Gln Cys Leu Cys
245 250 255

Glu Thr Asn Trp Gly Gly Gln Leu Cys Asp Lys Asp Leu Asn Tyr Cys
260 265 270

Gly Thr His Gln Pro Cys Leu Asn Arg Gly Thr Cys Ser Asn Thr Gly
275 280 285

Pro Asp Lys Tyr Gln Cys Ser Cys Pro Glu Gly Tyr Ser Gly Pro Asn
290 295 300

Cys Glu Ile Ala Glu His Ala Cys Leu Ser Asp Pro Cys His Asn Arg
305 310 315 320

Gly Ser Cys Lys Glu Thr Ser Ser Gly Phe Glu Cys Glu Cys Ser Pro
325 330 335

Gly Trp Thr Gly Pro Thr Cys Ser Thr Asn Ile Asp Asp Glu Phe Gly
340 345 350

Leu Val Pro Arg Gly Ser Gly His His His His His His

355 360 365

<210> 81
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 81
Gly Phe Thr Phe Ser Asn Tyr Gly Ile His
1 5 10

<210> 82
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 82
Trp Ile Thr Pro Asp Gly Gly Tyr Thr Asp Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 83
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 83
Trp Ile Thr Gly Asn Gly Gly Tyr Ser Asp Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 84
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>

<221> VARIANT
<222> (4)..(4)
<223> /replace="Gly"

<220>
<221> VARIANT
<222> (5)..(5)
<223> /replace="Asn"

<220>
<221> VARIANT
<222> (9)..(9)
<223> /replace="Ser"

<220>
<221> misc_feature
<222> (1)..(17)
<223> /note="Variant residues given in the sequence have no
preference with respect to those in the annotations
for variant positions"

<400> 84
Trp Ile Thr Pro Asp Gly Gly Tyr Thr Asp Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 85
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 85
Ala Gly Ser Trp Phe Ala Tyr
1 5

<210> 86
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<400> 86
Ala Gly Ser Leu Phe Ala Tyr
1 5

<210> 87
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

peptide"

<220>
<221> VARIANT
<222> (4)..(4)
<223> /replace="Leu"

<220>
<221> misc_feature
<222> (1)..(7)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 87
Ala Gly Ser Trp Phe Ala Tyr
1 5

<210> 88
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 88
Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1 5 10

<210> 89
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 89
Ser Ala Ser Phe Leu Tyr Ser
1 5

<210> 90
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 90
Gln Gln Ser Tyr Thr Thr Pro Pro Thr
1 5

<210> 91
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 91
Gln Gln Tyr Tyr Thr Thr Ala Thr Thr
1 5

<210> 92
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<220>
<221> VARIANT
<222> (3)..(3)
<223> /replace="Tyr"

<220>
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<222> (7)..(7)
<223> /replace="Ala"

<220>
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<222> (8)..(8)
<223> /replace="Thr"

<220>
<221> misc_feature
<222> (1)..(9)
<223> /note="Variant residues given in the sequence have no preference with respect to those in the annotations for variant positions"

<400> 92
Gln Gln Ser Tyr Thr Thr Pro Pro Thr
1 5

<210> 93
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 93
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 Asn Tyr
20 25 30

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

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

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

Thr Val Ser Ser
115

<210> 94
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 94
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 Asn Tyr
20 25 30

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

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

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

Thr Val Ser Ser
115

<210> 95
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 95
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 Asn Tyr
20 25 30

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

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

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

Thr Val Ser Ser
115

<210> 96
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 96
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 97
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 97
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 98
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 98
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 99
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 99
Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
1 5 10

<210> 100
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 100
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

Tyr Gly Ala Ser Thr Arg Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Arg Ser Pro His
85 90 95

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

<210> 101
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 101
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 102
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 102
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Tyr
20 25 30

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Trp Asn Ser Tyr Pro Phe
85 90 95

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

<210> 103
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 103
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

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

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

<210> 104
<211> 122
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 104
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 Tyr Ser Phe Thr Ser Tyr
20 25 30

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

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

Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser Lys Asn Thr Ala 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 His Ser Gly Tyr Tyr Arg Ile Ser Ser Ala Met Asp Val Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 105
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 105
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

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

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

Ala Arg Ile Asn Pro Pro Asn Arg Ser Asn Gln Tyr Ala Asp Ser Val
50 55 60

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

Thr Leu Val Thr Val Ser Ser
115

<210> 106
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 106
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 Asn Tyr
20 25 30

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

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

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

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

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

Val Thr Val Ser Ser
115

<210> 107
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 107
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 Asn 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

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

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

Thr Val Ser Ser
        115
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