SEQUENCE LISTING

<110> GENENTECH, INC.

<120> ANTIBODIES AND METHODS OF USE

<130> 00B206.0170

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<150> 62/081,435
<151> 2014-11-18

<150> 61/920,396
<151> 2013-12-23

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<170> PatentIn version 3.5

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

Ala Thr Val Ser Ser Gly Gly Arg Tyr Thr Tyr Tyr Pro Asp Ser Val

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

Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
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Thr Arg Gly Gly Asp Gly Tyr Ala Leu Asp Tyr Trp Gly Gln Gly Thr
            100                 105                 110

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

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

Gly Trp Ile Asp Pro Glu Asn Asp Asp Thr Ile Tyr Asp Pro Lys Phe
    50                  55                  60

Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Val Tyr
65                  70                  75                  80

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

Ala Ala Phe Thr Thr Val Phe Ala Tyr Trp Gly His Gln Thr Met Val
            100                 105                 110

Thr Val Ser Ala
        115


<210> 96
<211> 115
<212> PRT
<213> Artificial Sequence

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

<400> 96
Gln Val Gln Val Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser Gln
1 5 10 15

Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr
20 25 30

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

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

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

Lys Leu Asn Ser Leu Glu Ala Asp Asp Thr Ala Thr Tyr Tyr Cys Ala
85 90 95

Lys Thr His Asp Trp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ala
115

<210> 97
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 97
Glu 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 Thr Ala Ala Asp Phe Asn Ile Lys Asp Thr
20 25 30

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

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

Gln Gly Lys Ala Ser Ile Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80

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

Ala Ser Arg Ala Leu Gly Asn Gly Tyr Ala Leu Gly Tyr Trp Gly Gln
100 105 110

Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 98
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 98
Glu 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 Thr Ala Ser Asp Phe Asn Ile Ile Asp Thr
20 25 30

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

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

Gln Asp Lys Ala Ala Leu Thr Ser Asp Thr Asp Ser Asn Thr Ala Tyr
65 70 75 80

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

Ala Arg Gly Thr Ser Tyr Ser Trp Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Ser Val Ser Ala
115

<210> 99
<211> 124
<212> PRT
<213> Artificial Sequence

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

<400> 99
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Ile Val Lys Pro Gly Ala
1 5 10 15

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

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

Gly Glu Ile Asp Pro Ser Val Ser Asn Ser Asn Tyr Asn Gln Lys Phe
    50                  55                  60

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

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

Val Arg Leu Gly Val Met Val Tyr Gly Ser Ser Pro Phe Trp Phe Ala
            100                 105                 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
        115                 120


<210> 100
<211> 124
<212> PRT
<213> Artificial Sequence

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

<400> 100
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Ile Val Lys Pro Gly Ala
1               5                   10                  15

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

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

Gly Glu Ile Asp Pro Ser Val Ser Asn Ser Asn Tyr Asn Gln Lys Phe
    50                  55                  60

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

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

Val Arg Leu Gly Val Met Val Tyr Gly Ser Ser Pro Phe Trp Phe Ala
            100                 105                 110
```

```
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
        115                 120


<210> 101
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 101
Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Leu Lys Pro Gly Ala
1               5                   10                  15


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


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


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


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


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


Ala Ser Arg Ala Leu Gly Asn Gly Tyr Ala Met Asp Tyr Trp Gly Gln
            100                 105                 110


Gly Thr Ser Val Thr Val Ser Ser
        115                 120


<210> 102
<211> 114
<212> PRT
<213> Artificial Sequence

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

<400> 102
Glu Val Pro Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1               5                   10                  15


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


Thr Met Asn Trp Val Arg Gln Ser His Gly Lys Ser Leu Glu Trp Ile
```

```
        35                  40                  45

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

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Phe
65                  70                  75                  80

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

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

Ser Ser
```

<210> 103
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 103

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

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

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

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

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

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

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

Gly Thr Leu Val Thr Val Ser Ala
        115                 120
```

<210> 104
<211> 114

<212> PRT
<213> Artificial Sequence

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

<400> 104
Gln Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr
1 5 10 15

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

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

Gly Ala Ile Trp Pro Glu Asn Ala Asp Ser Val Tyr Asn Gln Lys Phe
50 55 60

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

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

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

Ser Ser

<210> 105
<211> 118
<212> PRT
<213> Artificial Sequence

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

<400> 105
Glu Val Gln Leu Gln Gln Ser Gly Thr Glu Leu Val Arg Pro Gly Ala
1 5 10 15

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

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

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

```
Gln Gly Lys Ala Ala Met Thr Ser Asp Thr Ser Ser Asn Thr Ala Tyr
65                  70                  75                  80


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


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


Ser Val Thr Val Ser Ser
        115


<210> 106
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 106
Gln Val Gln Leu Gln Gln Ser Gly Asp Glu Leu Met Lys Pro Gly Ala
1               5                   10                  15


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


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


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


Lys Val Lys Ala Thr Phe Thr Ala Asp Thr Ser Ser Asn 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


Ala Arg Gly Gly Tyr His Tyr Pro Gly Trp Leu Val Tyr Trp Gly Gln
            100                 105                 110


Gly Thr Leu Val Thr Val Ser Ala
        115                 120


<210> 107
<211> 116
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"
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<400> 107
Glu Val Lys Phe Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1   5   10   15

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

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

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

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

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

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

Thr Val Ser Ala
        115

<210> 108
<211> 119
<212> PRT
<213> Artificial Sequence

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

<400> 108
Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1   5   10   15

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

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

Gly Trp Ile Asp Thr Asp Thr Gly Glu Ala Thr Tyr Thr Asp Asp Phe
    50   55   60

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

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

Ala Arg Glu Glu Tyr Gly Leu Phe Gly Phe Pro Tyr Trp Gly His Gly
100 105 110

Thr Leu Val Thr Val Ser Ala
115

<210> 109
<211> 124
<212> PRT
<213> Artificial Sequence

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

<400> 109
Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
1 5 10 15

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

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

Trp Leu Ala His Ile Trp Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ala
50 55 60

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

Phe Leu Lys Ile Ala Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Phe
85 90 95

Cys Ala Arg Ile Asp Gly Ile Tyr Asp Gly Ser Phe Tyr Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
115 120

<210> 110
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 110
Gln Val Gln Leu Lys Gln Ser Gly Pro Gly Leu Val Gln Pro Ser Gln
1 5 10 15

Ser Leu Ser Val Ala Cys Thr Val Ser Asp Phe Ser Leu Thr Thr Tyr

```
            20                  25                  30

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

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

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

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

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

Gly Thr Ser Val Thr Val Ser Ser
        115                 120


<210> 111
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 111
Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly
1               5                   10                  15

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

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile
        35                  40                  45

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

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

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

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


<210> 112
<211> 106
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<212> PRT
<213> Artificial Sequence

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

<400> 112
Glu Asn Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Gly Arg Tyr Thr
20 25 30

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

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly Ser
50 55 60

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

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

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

<210> 113
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 113
Asp Ile Gln Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln
65 70 75 80

Glu Asp Lys Ala Thr Tyr Phe Cys His Gln Val Arg Thr Leu Pro Trp
85 90 95

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

<210> 114
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 114
Asp Ile Gln Met Thr Gln Ser Ser Ser Tyr Leu Ser Val Ser Leu Gly
1 5 10 15

Gly Ser Val Thr Ile Thr Cys Lys Ala Ser Asp His Ile Asn Asn Trp
20 25 30

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

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

Ser Gly Ser Gly Arg Asp Tyr Ile Leu Ser Ile Thr Ser Leu Gln Ser
65 70 75 80

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

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

<210> 115
<211> 111
<212> PRT
<213> Artificial Sequence

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

<400> 115
Ala Val Leu 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 Asn Ile Val His Ser
20 25 30

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

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

Ser His Val Leu Thr Phe Gly Ala Gly Thr Arg Leu Glu Leu Lys
100 105 110

<210> 116
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 116
Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
1 5 10 15

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

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

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

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

Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln His Tyr Ile Val Pro Tyr
85 90 95

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

<210> 117
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 117

```
Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
1               5                   10                  15

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

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

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

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

Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln His Tyr Ile Val Pro Tyr
                85                  90                  95

Thr Phe Gly Gly Gly Thr Thr Leu Glu Ile Glu
            100                 105
```

<210> 118
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 118

```
Asp Ile Gln Met Thr Gln Ser Ser Ser Tyr Leu Ser Val Ser Leu Gly
1               5                   10                  15

Gly Arg Val Thr Ile Thr Cys Lys Ala Ser Asp His Ile Asn Asn Trp
            20                  25                  30

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

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

Ser Gly Ser Gly Lys Asp Tyr Thr Leu Thr Ile Thr Ser Leu Gln Thr
65                  70                  75                  80

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

Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
            100                 105
```

<210> 119

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

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

<400> 119
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

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

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

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

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

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

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

<210> 120
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 120
Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
1 5 10 15

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

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

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

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

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

Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 121
<211> 113
<212> PRT
<213> Artificial Sequence

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

<400> 121
Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Pro Met Ser Val Gly
1 5 10 15

Gln Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
20 25 30

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

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

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

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

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

Lys

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

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

<400> 122
Glu Ser Val Leu Thr Gln Ser Pro Ala Leu Met Ser Ala Ser Leu Gly
1 5 10 15

Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Asn His Met

```
            20                  25                  30

Tyr Trp Tyr Gln Gln Lys Ser Asp Ala Ser Pro Lys Leu Trp Ile Tyr
        35                  40                  45

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

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

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

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


<210> 123
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 123
Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
1               5                   10                  15

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

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

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

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asn Val Gln Ser
65                  70                  75                  80

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

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


<210> 124
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 124
Asp Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Thr Pro Gly
1 5 10 15

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

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

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

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

Glu Asp Val Gly Val Tyr Tyr Cys Gln Asn Gly His Asn Phe Pro Tyr
85 90 95

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

<210> 125
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 125
Asp Ile Gln Met Thr Gln Ser Ser Ser Ser Phe Ser Val Ser Leu Gly
1 5 10 15

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

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

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

Ser Gly Ser Gly Lys Asp Tyr Thr Leu Ser Ile Thr Ser Leu Gln Thr
65 70 75 80

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

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

<210> 126
<211> 110
<212> PRT
<213> Artificial Sequence

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

<400> 126
Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
1 5 10 15

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

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

Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala
50 55 60

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

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

Glu Asp Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 127
<211> 111
<212> PRT
<213> Artificial Sequence

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

<400> 127
Asp Ile Val Leu Thr Gln Ser Pro Thr Ser Leu Ala Val Ser Leu Gly
1 5 10 15

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

Gly Asn Arg Tyr Met Thr Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
35 40 45

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

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

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

Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 128
<211> 120
<212> PRT
<213> Artificial Sequence

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

<400> 128
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 Asp Phe Ser Leu Thr Thr Tyr
20 25 30

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

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

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

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

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

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 129
<211> 450
<212> PRT
<213> Artificial Sequence

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

<400> 129

```
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 Asp Phe Ser Leu Thr Thr Tyr
            20                  25                  30

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

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

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

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

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

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

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
    130                 135                 140

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

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

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

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
        195                 200                 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
    210                 215                 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225                 230                 235                 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
                245                 250                 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
            260                 265                 270
```

```
Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
        275                 280                 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Gly Ser Thr Tyr Arg
    290                 295                 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305                 310                 315                 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
                325                 330                 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
            340                 345                 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
        355                 360                 365

Ser Cys Ala Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
    370                 375                 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385                 390                 395                 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Val Ser Lys Leu Thr Val Asp
                405                 410                 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
            420                 425                 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
        435                 440                 445

Gly Lys
    450


<210> 130
<211> 111
<212> PRT
<213> Artificial Sequence

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

<400> 130
Asp Ile Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15

Glu Arg Ala Thr Ile Asn Cys Arg Ala Ser Glu Ser Val Glu Ser Tyr
            20                  25                  30

Gly Asn Arg Tyr Met Thr Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
```

```
        35                  40                  45

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

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

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

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

<210> 131
<211> 218
<212> PRT
<213> Artificial Sequence

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

<400> 131
Asp Ile Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15

Glu Arg Ala Thr Ile Asn Cys Arg Ala Ser Glu Ser Val Glu Ser Tyr
            20                  25                  30

Gly Asn Arg Tyr Met Thr Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
        35                  40                  45

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

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

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

Glu Asp Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
            100                 105                 110

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

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

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
145                 150                 155                 160
```

```
Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
                165                 170                 175

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
            180                 185                 190

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
        195                 200                 205

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
    210                 215

<210> 132
<211> 116
<212> PRT
<213> Artificial Sequence

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

<400> 132
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 Thr Ser Asn
            20                  25                  30

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

Gly Glu Ile Asp Pro Tyr Asp Gly Asp 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 Thr Gly Thr Asp Val Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115

<210> 133
<211> 446
<212> PRT
<213> Artificial Sequence

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

<400> 133

```
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 Thr Ser Asn
            20                  25                  30

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

Gly Glu Ile Asp Pro Tyr Asp Gly Asp 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 Thr Gly Thr Asp Val Met Asp Tyr Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

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

Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
    130                 135                 140

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

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

Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
            180                 185                 190

Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
        195                 200                 205

Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr
    210                 215                 220

Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe
225                 230                 235                 240

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
                245                 250                 255
```

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
260 265 270

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
275 280 285

Lys Pro Arg Glu Glu Gln Tyr Gly Ser Thr Tyr Arg Val Val Ser Val
290 295 300

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
305 310 315 320

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
325 330 335

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
340 345 350

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Trp Cys Leu Val
355 360 365

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
370 375 380

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
385 390 395 400

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
405 410 415

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
420 425 430

Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
435 440 445

<210> 134
<211> 107
<212> PRT
<213> Artificial Sequence

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

<400> 134
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> 135
<211> 214
<212> PRT
<213> Artificial Sequence

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

<400> 135
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 Arg Thr Val Ala Ala
            100                 105                 110

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

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160
```

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 136
<211> 5
<212> PRT
<213> Artificial Sequence

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

<400> 136
Ser Asn Tyr Ile Ser
1 5

<210> 137
<211> 17
<212> PRT
<213> Artificial Sequence

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

<400> 137
Glu Ile Asp Pro Tyr Asp Gly Asp Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 138
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 138
Gly Thr Asp Val Met Asp Tyr
1 5

<210> 139

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

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

<400> 139
Arg Ala Ser Gln Asp Val Ser Thr Ala Val Ala
1 5 10

<210> 140
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 140
Ser Ala Ser Phe Leu Tyr Ser
1 5

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

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

<400> 141
Gln Gln Ser Tyr Thr Thr Pro Pro Thr
1 5

<210> 142
<211> 34
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown: beta-Klotho peptide"

<400> 142
Ser Ser Pro Thr Arg Leu Ala Val Ile Pro Trp Gly Val Arg Lys Leu
1 5 10 15

Leu Arg Trp Val Arg Arg Asn Tyr Gly Asp Met Asp Ile Tyr Ile Thr
20 25 30

Ala Ser

<210> 143

<211> 16
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown: Fibroblast Growth Factor
Receptor 1 peptide"

<400> 143
Lys Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys Pro
1 5 10 15

<210> 144
<211> 14
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown: Fibroblast Growth Factor
Receptor 1 peptide"

<400> 144
Phe Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr
1 5 10

<210> 145
<211> 992
<212> PRT
<213> Homo sapiens

<400> 145
Phe Ser Gly Asp Gly Arg Ala Ile Trp Ser Lys Asn Pro Asn Phe Thr
1 5 10 15

Pro Val Asn Glu Ser Gln Leu Phe Leu Tyr Asp Thr Phe Pro Lys Asn
20 25 30

Phe Phe Trp Gly Ile Gly Thr Gly Ala Leu Gln Val Glu Gly Ser Trp
35 40 45

Lys Lys Asp Gly Lys Gly Pro Ser Ile Trp Asp His Phe Ile His Thr
50 55 60

His Leu Lys Asn Val Ser Ser Thr Asn Gly Ser Ser Asp Ser Tyr Ile
65 70 75 80

Phe Leu Glu Lys Asp Leu Ser Ala Leu Asp Phe Ile Gly Val Ser Phe
85 90 95

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

Thr Val Ala Asn Ala Lys Gly Leu Gln Tyr Tyr Ser Thr Leu Leu Asp
115 120 125

Ala Leu Val Leu Arg Asn Ile Glu Pro Ile Val Thr Leu Tyr His Trp

130 135 140

Asp Leu Pro Leu Ala Leu Gln Glu Lys Tyr Gly Gly Trp Lys Asn Asp
145 150 155 160

Thr Ile Ile Asp Ile Phe Asn Asp Tyr Ala Thr Tyr Cys Phe Gln Met
165 170 175

Phe Gly Asp Arg Val Lys Tyr Trp Ile Thr Ile His Asn Pro Tyr Leu
180 185 190

Val Ala Trp His Gly Tyr Gly Thr Gly Met His Ala Pro Gly Glu Lys
195 200 205

Gly Asn Leu Ala Ala Val Tyr Thr Val Gly His Asn Leu Ile Lys Ala
210 215 220

His Ser Lys Val Trp His Asn Tyr Asn Thr His Phe Arg Pro His Gln
225 230 235 240

Lys Gly Trp Leu Ser Ile Thr Leu Gly Ser His Trp Ile Glu Pro Asn
245 250 255

Arg Ser Glu Asn Thr Met Asp Ile Phe Lys Cys Gln Gln Ser Met Val
260 265 270

Ser Val Leu Gly Trp Phe Ala Asn Pro Ile His Gly Asp Gly Asp Tyr
275 280 285

Pro Glu Gly Met Arg Lys Lys Leu Phe Ser Val Leu Pro Ile Phe Ser
290 295 300

Glu Ala Glu Lys His Glu Met Arg Gly Thr Ala Asp Phe Phe Ala Phe
305 310 315 320

Ser Phe Gly Pro Asn Asn Phe Lys Pro Leu Asn Thr Met Ala Lys Met
325 330 335

Gly Gln Asn Val Ser Leu Asn Leu Arg Glu Ala Leu Asn Trp Ile Lys
340 345 350

Leu Glu Tyr Asn Asn Pro Arg Ile Leu Ile Ala Glu Asn Gly Trp Phe
355 360 365

Thr Asp Ser Arg Val Lys Thr Glu Asp Thr Thr Ala Ile Tyr Met Met
370 375 380

Lys Asn Phe Leu Ser Gln Val Leu Gln Ala Ile Arg Leu Asp Glu Ile
385 390 395 400

Arg Val Phe Gly Tyr Thr Ala Trp Ser Leu Leu Asp Gly Phe Glu Trp

405 410 415

Gln Asp Ala Tyr Thr Ile Arg Arg Gly Leu Phe Tyr Val Asp Phe Asn
420 425 430

Ser Lys Gln Lys Glu Arg Lys Pro Lys Ser Ser Ala His Tyr Tyr Lys
435 440 445

Gln Ile Ile Arg Glu Asn Gly Phe Ser Leu Lys Glu Ser Thr Pro Asp
450 455 460

Val Gln Gly Gln Phe Pro Cys Asp Phe Ser Trp Gly Val Thr Glu Ser
465 470 475 480

Val Leu Lys Pro Glu Ser Val Ala Ser Ser Pro Gln Phe Ser Asp Pro
485 490 495

His Leu Tyr Val Trp Asn Ala Thr Gly Asn Arg Leu Leu His Arg Val
500 505 510

Glu Gly Val Arg Leu Lys Thr Arg Pro Ala Gln Cys Thr Asp Phe Val
515 520 525

Asn Ile Lys Lys Gln Leu Glu Met Leu Ala Arg Met Lys Val Thr His
530 535 540

Tyr Arg Phe Ala Leu Asp Trp Ala Ser Val Leu Pro Thr Gly Asn Leu
545 550 555 560

Ser Ala Val Asn Arg Gln Ala Leu Arg Tyr Tyr Arg Cys Val Val Ser
565 570 575

Glu Gly Leu Lys Leu Gly Ile Ser Ala Met Val Thr Leu Tyr Tyr Pro
580 585 590

Thr His Ala His Leu Gly Leu Pro Glu Pro Leu Leu His Ala Asp Gly
595 600 605

Trp Leu Asn Pro Ser Thr Ala Glu Ala Phe Gln Ala Tyr Ala Gly Leu
610 615 620

Cys Phe Gln Glu Leu Gly Asp Leu Val Lys Leu Trp Ile Thr Ile Asn
625 630 635 640

Glu Pro Asn Arg Leu Ser Asp Ile Tyr Asn Arg Ser Gly Asn Asp Thr
645 650 655

Tyr Gly Ala Ala His Asn Leu Leu Val Ala His Ala Leu Ala Trp Arg
660 665 670

Leu Tyr Asp Arg Gln Phe Arg Pro Ser Gln Arg Gly Ala Val Ser Leu

```
        675                 680                 685

Ser Leu His Ala Asp Trp Ala Glu Pro Ala Asn Pro Tyr Ala Asp Ser
    690                 695                 700

His Trp Arg Ala Ala Glu Arg Phe Leu Gln Phe Glu Ile Ala Trp Phe
705                 710                 715                 720

Ala Glu Pro Leu Phe Lys Thr Gly Asp Tyr Pro Ala Ala Met Arg Glu
                725                 730                 735

Tyr Ile Ala Ser Lys His Arg Arg Gly Leu Ser Ser Ser Ala Leu Pro
            740                 745                 750

Arg Leu Thr Glu Ala Glu Arg Arg Leu Leu Lys Gly Thr Val Asp Phe
        755                 760                 765

Cys Ala Leu Asn His Phe Thr Thr Arg Phe Val Met His Glu Gln Leu
    770                 775                 780

Ala Gly Ser Arg Tyr Asp Ser Asp Arg Asp Ile Gln Phe Leu Gln Asp
785                 790                 795                 800

Ile Thr Arg Leu Ser Ser Pro Thr Arg Leu Ala Val Ile Pro Trp Gly
                805                 810                 815

Val Arg Lys Leu Leu Arg Trp Val Arg Arg Asn Tyr Gly Asp Met Asp
            820                 825                 830

Ile Tyr Ile Thr Ala Ser Gly Ile Asp Asp Gln Ala Leu Glu Asp Asp
        835                 840                 845

Arg Leu Arg Lys Tyr Tyr Leu Gly Lys Tyr Leu Gln Glu Val Leu Lys
    850                 855                 860

Ala Tyr Leu Ile Asp Lys Val Arg Ile Lys Gly Tyr Tyr Ala Phe Lys
865                 870                 875                 880

Leu Ala Glu Glu Lys Ser Lys Pro Arg Phe Gly Phe Phe Thr Ser Asp
                885                 890                 895

Phe Lys Ala Lys Ser Ser Ile Gln Phe Tyr Asn Lys Val Ile Ser Ser
            900                 905                 910

Arg Gly Phe Pro Phe Glu Asn Ser Ser Ser Arg Cys Ser Gln Thr Gln
        915                 920                 925

Glu Asn Thr Glu Cys Thr Val Cys Leu Phe Leu Val Gln Lys Lys Pro
    930                 935                 940

Leu Ile Phe Leu Gly Cys Cys Phe Phe Ser Thr Leu Val Leu Leu Leu
```

945 950 955 960

Ser Ile Ala Ile Phe Gln Arg Gln Lys Arg Arg Lys Phe Trp Lys Ala
965 970 975

Lys Asn Leu Gln His Ile Pro Leu Lys Lys Gly Lys Arg Val Val Ser
980 985 990

<210> 146
<211> 820
<212> PRT
<213> Homo sapiens

<400> 146
Met Trp Ser Trp Lys Cys Leu Leu Phe Trp Ala Val Leu Val Thr Ala
1 5 10 15

Thr Leu Cys Thr Ala Arg Pro Ser Pro Thr Leu Pro Glu Gln Ala Gln
20 25 30

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

Asp Leu Leu Gln Leu Arg Cys Arg Leu Arg Asp Asp Val Gln Ser Ile
50 55 60

Asn Trp Leu Arg Asp Gly Val Gln Leu Ala Glu Ser Asn Arg Thr Arg
65 70 75 80

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

Gly Leu Tyr Ala Cys Val Thr Ser Ser Pro Ser Gly Ser Asp Thr Thr
100 105 110

Tyr Phe Ser Val Asn Val Ser Asp Ala Leu Pro Ser Ser Glu Asp Asp
115 120 125

Asp Asp Asp Asp Asp Ser Ser Ser Glu Glu Lys Glu Thr Asp Asn Thr
130 135 140

Lys Pro Asn Pro Val Ala Pro Tyr Trp Thr Ser Pro Glu Lys Met Glu
145 150 155 160

Lys Lys Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe Lys Cys
165 170 175

Pro Ser Ser Gly Thr Pro Asn Pro Thr Leu Arg Trp Leu Lys Asn Gly
180 185 190

Lys Glu Phe Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val Arg Tyr
195 200 205

```
Ala Thr Trp Ser Ile Ile Met Asp Ser Val Val Pro Ser Asp Lys Gly
    210                 215                 220

Asn Tyr Thr Cys Ile Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr
225                 230                 235                 240

Tyr Gln Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln
                245                 250                 255

Ala Gly Leu Pro Ala Asn Lys Thr Val Ala Leu Gly Ser Asn Val Glu
            260                 265                 270

Phe Met Cys Lys Val Tyr Ser Asp Pro Gln Pro His Ile Gln Trp Leu
        275                 280                 285

Lys His Ile Glu Val Asn Gly Ser Lys Ile Gly Pro Asp Asn Leu Pro
    290                 295                 300

Tyr Val Gln Ile Leu Lys Thr Ala Gly Val Asn Thr Thr Asp Lys Glu
305                 310                 315                 320

Met Glu Val Leu His Leu Arg Asn Val Ser Phe Glu Asp Ala Gly Glu
                325                 330                 335

Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Leu Ser His His Ser Ala
            340                 345                 350

Trp Leu Thr Val Leu Glu Ala Leu Glu Glu Arg Pro Ala Val Met Thr
        355                 360                 365

Ser Pro Leu Tyr Leu Glu Ile Ile Ile Tyr Cys Thr Gly Ala Phe Leu
    370                 375                 380

Ile Ser Cys Met Val Gly Ser Val Ile Val Tyr Lys Met Lys Ser Gly
385                 390                 395                 400

Thr Lys Lys Ser Asp Phe His Ser Gln Met Ala Val His Lys Leu Ala
                405                 410                 415

Lys Ser Ile Pro Leu Arg Arg Gln Val Thr Val Ser Ala Asp Ser Ser
            420                 425                 430

Ala Ser Met Asn Ser Gly Val Leu Leu Val Arg Pro Ser Arg Leu Ser
        435                 440                 445

Ser Ser Gly Thr Pro Met Leu Ala Gly Val Ser Glu Tyr Glu Leu Pro
    450                 455                 460

Glu Asp Pro Arg Trp Glu Leu Pro Arg Asp Arg Leu Val Leu Gly Lys
465                 470                 475                 480
```

```
Pro Leu Gly Glu Gly Cys Phe Gly Gln Val Val Leu Ala Glu Ala Ile
                485                 490                 495

Gly Leu Asp Lys Asp Lys Pro Asn Arg Val Thr Lys Val Ala Val Lys
            500                 505                 510

Met Leu Lys Ser Asp Ala Thr Glu Lys Asp Leu Ser Asp Leu Ile Ser
        515                 520                 525

Glu Met Glu Met Met Lys Met Ile Gly Lys His Lys Asn Ile Ile Asn
    530                 535                 540

Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro Leu Tyr Val Ile Val Glu
545                 550                 555                 560

Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr Leu Gln Ala Arg Arg Pro
                565                 570                 575

Pro Gly Leu Glu Tyr Cys Tyr Asn Pro Ser His Asn Pro Glu Glu Gln
            580                 585                 590

Leu Ser Ser Lys Asp Leu Val Ser Cys Ala Tyr Gln Val Ala Arg Gly
        595                 600                 605

Met Glu Tyr Leu Ala Ser Lys Lys Cys Ile His Arg Asp Leu Ala Ala
    610                 615                 620

Arg Asn Val Leu Val Thr Glu Asp Asn Val Met Lys Ile Ala Asp Phe
625                 630                 635                 640

Gly Leu Ala Arg Asp Ile His His Ile Asp Tyr Tyr Lys Lys Thr Thr
                645                 650                 655

Asn Gly Arg Leu Pro Val Lys Trp Met Ala Pro Glu Ala Leu Phe Asp
            660                 665                 670

Arg Ile Tyr Thr His Gln Ser Asp Val Trp Ser Phe Gly Val Leu Leu
        675                 680                 685

Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro Tyr Pro Gly Val Pro Val
    690                 695                 700

Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly His Arg Met Asp Lys Pro
705                 710                 715                 720

Ser Asn Cys Thr Asn Glu Leu Tyr Met Met Met Arg Asp Cys Trp His
                725                 730                 735

Ala Val Pro Ser Gln Arg Pro Thr Phe Lys Gln Leu Val Glu Asp Leu
            740                 745                 750
```

```
Asp Arg Ile Val Ala Leu Thr Ser Asn Gln Glu Tyr Leu Asp Leu Ser
        755                 760                 765

Met Pro Leu Asp Gln Tyr Ser Pro Ser Phe Pro Asp Thr Arg Ser Ser
    770                 775                 780

Thr Cys Ser Ser Gly Glu Asp Ser Val Phe Ser His Glu Pro Leu Pro
785                 790                 795                 800

Glu Glu Pro Cys Leu Pro Arg His Pro Ala Gln Leu Ala Asn Gly Gly
                805                 810                 815

Leu Lys Arg Arg
            820
```

<210> 147
<211> 948
<212> PRT
<213> Artificial Sequence

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

<400> 147

```
Asp Tyr Lys Asp Asp Asp Asp Lys Leu Glu Phe Ser Gly Asp Gly Lys
1               5                   10                  15

Ala Ile Trp Asp Lys Lys Gln Tyr Val Ser Pro Val Asn Pro Gly Gln
            20                  25                  30

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

Thr Gly Ala Phe Gln Val Glu Gly Ser Trp Lys Ala Asp Gly Arg Gly
    50                  55                  60

Pro Ser Ile Trp Asp Arg Tyr Val Asp Ser His Leu Arg Gly Val Asn
65                  70                  75                  80

Ser Thr Asp Arg Ser Thr Asp Ser Tyr Val Phe Leu Glu Lys Asp Leu
                85                  90                  95

Leu Ala Leu Asp Phe Leu Gly Val Ser Phe Tyr Gln Phe Ser Ile Ser
            100                 105                 110

Trp Pro Arg Leu Phe Pro Asn Gly Thr Val Ala Ala Val Asn Ala Lys
        115                 120                 125

Gly Leu Gln Tyr Tyr Arg Ala Leu Leu Asp Ser Leu Val Leu Arg Asn
    130                 135                 140
```

```
Ile Glu Pro Ile Val Thr Leu Tyr His Trp Asp Leu Pro Leu Thr Leu
145                 150                 155                 160

Gln Glu Glu Tyr Gly Gly Trp Lys Asn Ala Thr Met Ile Asp Leu Phe
                165                 170                 175

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

Tyr Trp Ile Thr Ile His Asn Pro Tyr Leu Val Ala Trp His Gly Phe
        195                 200                 205

Gly Thr Gly Met His Ala Pro Gly Glu Lys Gly Asn Leu Thr Ala Val
    210                 215                 220

Tyr Thr Val Gly His Asn Leu Ile Lys Ala His Ser Lys Val Trp His
225                 230                 235                 240

Asn Tyr Asp Lys Asn Phe Arg Pro His Gln Lys Gly Trp Leu Ser Ile
                245                 250                 255

Thr Leu Gly Ser His Trp Ile Glu Pro Asn Arg Thr Glu Asn Met Glu
            260                 265                 270

Asp Val Ile Asn Cys Gln His Ser Met Ser Ser Val Leu Gly Trp Phe
        275                 280                 285

Ala Asn Pro Ile His Gly Asp Gly Asp Tyr Pro Glu Phe Met Lys Thr
    290                 295                 300

Ser Ser Val Ile Pro Glu Phe Ser Glu Ala Glu Lys Glu Glu Val Arg
305                 310                 315                 320

Gly Thr Ala Asp Phe Phe Ala Phe Ser Phe Gly Pro Asn Asn Phe Arg
                325                 330                 335

Pro Ser Asn Thr Val Val Lys Met Gly Gln Asn Val Ser Leu Asn Leu
            340                 345                 350

Arg Gln Val Leu Asn Trp Ile Lys Leu Glu Tyr Asp Asn Pro Arg Ile
        355                 360                 365

Leu Ile Ser Glu Asn Gly Trp Phe Thr Asp Ser Tyr Ile Lys Thr Glu
    370                 375                 380

Asp Thr Thr Ala Ile Tyr Met Met Lys Asn Phe Leu Asn Gln Val Leu
385                 390                 395                 400

Gln Ala Ile Lys Phe Asp Glu Ile Gln Val Phe Gly Tyr Thr Ala Trp
                405                 410                 415
```

```
Thr Leu Leu Asp Gly Phe Glu Trp Gln Asp Ala Tyr Thr Thr Arg Arg
            420                 425                 430

Gly Leu Phe Tyr Val Asp Phe Asn Ser Glu Gln Lys Glu Arg Lys Pro
        435                 440                 445

Lys Ser Ser Ala His Tyr Tyr Lys Gln Ile Ile Gln Asp Asn Gly Phe
    450                 455                 460

Pro Leu Gln Glu Ser Thr Pro Asp Met Lys Gly Gln Phe Pro Cys Asp
465                 470                 475                 480

Phe Ser Trp Gly Val Thr Glu Ser Val Leu Lys Pro Glu Phe Thr Val
                485                 490                 495

Ser Ser Pro Gln Phe Thr Asp Pro His Leu Tyr Val Trp Asn Val Thr
            500                 505                 510

Gly Asn Arg Leu Leu Tyr Arg Val Glu Gly Val Arg Leu Lys Thr Arg
        515                 520                 525

Pro Ser Gln Cys Thr Asp Tyr Val Ser Ile Lys Lys Arg Val Glu Met
    530                 535                 540

Leu Ala Lys Met Lys Val Thr His Tyr Gln Phe Ala Leu Asp Trp Thr
545                 550                 555                 560

Ser Ile Leu Pro Thr Gly Asn Leu Ser Lys Ile Asn Arg Gln Val Leu
                565                 570                 575

Arg Tyr Tyr Arg Cys Val Val Ser Glu Gly Leu Lys Leu Gly Ile Ser
            580                 585                 590

Pro Met Val Thr Leu Tyr His Pro Thr His Ser His Leu Gly Leu Pro
        595                 600                 605

Met Pro Leu Leu Ser Ser Gly Gly Trp Leu Asn Thr Asn Thr Ala Lys
    610                 615                 620

Ala Phe Gln Asp Tyr Ala Gly Leu Cys Phe Lys Glu Leu Gly Asp Leu
625                 630                 635                 640

Val Lys Leu Trp Ile Thr Ile Asn Glu Pro Asn Arg Leu Ser Asp Met
                645                 650                 655

Tyr Asn Arg Thr Ser Asn Asp Thr Tyr Arg Ala Ala His Asn Leu Met
            660                 665                 670

Ile Ala His Ala Gln Val Trp His Leu Tyr Asp Arg Gln Tyr Arg Pro
        675                 680                 685
```

```
Val Gln His Gly Ala Val Ser Leu Ser Leu His Ser Asp Trp Ala Glu
    690                 695                 700

Pro Ala Asn Pro Tyr Val Glu Ser His Trp Lys Ala Ala Glu Arg Phe
705                 710                 715                 720

Leu Gln Phe Glu Ile Ala Trp Phe Ala Asp Pro Leu Phe Lys Thr Gly
                725                 730                 735

Asp Tyr Pro Leu Ala Met Lys Glu Tyr Ile Ala Ser Lys Lys Gln Arg
            740                 745                 750

Gly Leu Ser Ser Ser Val Leu Pro Arg Phe Thr Leu Lys Glu Ser Arg
        755                 760                 765

Leu Val Lys Gly Thr Ile Asp Phe Tyr Ala Leu Asn His Phe Thr Thr
    770                 775                 780

Arg Phe Val Ile His Lys Gln Leu Asn Thr Asn Cys Ser Val Ala Asp
785                 790                 795                 800

Arg Asp Val Gln Phe Leu Gln Asp Ile Thr Arg Leu Ser Ser Pro Ser
                805                 810                 815

Arg Leu Ala Val Thr Pro Trp Gly Met Arg Lys Leu Leu Gly Trp Ile
            820                 825                 830

Arg Arg Asn Tyr Arg Asp Met Asp Ile Tyr Val Thr Ala Asn Gly Ile
        835                 840                 845

Asp Asp Leu Ala Leu Glu Asp Asp Gln Ile Arg Lys Tyr Tyr Leu Glu
    850                 855                 860

Lys Tyr Val Gln Glu Ala Leu Lys Ala Tyr Leu Ile Asp Lys Val Lys
865                 870                 875                 880

Ile Lys Gly Tyr Tyr Ala Phe Lys Leu Thr Glu Glu Lys Ser Lys Pro
                885                 890                 895

Arg Phe Gly Phe Phe Thr Ser Asp Phe Lys Ala Lys Ser Ser Val Gln
            900                 905                 910

Phe Tyr Ser Lys Leu Ile Ser Ser Ser Gly Phe Ser Ser Glu Asn Arg
        915                 920                 925

Ser Pro Ala Cys Gly Gln Pro Pro Glu Asp Thr Glu Cys Ala Ile Cys
    930                 935                 940

Ser Phe Leu Thr
945
```

<210> 148
<211> 949
<212> PRT
<213> Artificial Sequence

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

<400> 148
Asp Tyr Lys Asp Asp Asp Asp Lys Leu Asp Phe Pro Gly Asp Gly Arg
1 5 10 15

Ala Val Trp Ser Gln Asn Pro Asn Leu Ser Pro Val Asn Glu Ser Gln
20 25 30

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

Thr Gly Ala Phe Gln Val Glu Gly Ser Trp Lys Lys Asp Gly Lys Gly
50 55 60

Leu Ser Val Trp Asp His Phe Ile Ala Thr His Leu Asn Val Ser Ser
65 70 75 80

Arg Asp Gly Ser Ser Asp Ser Tyr Ile Phe Leu Glu Lys Asp Leu Ser
85 90 95

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

Pro Arg Leu Phe Pro Asp Gly Thr Val Ala Val Ala Asn Ala Lys Gly
115 120 125

Leu Gln Tyr Tyr Asn Arg Leu Leu Asp Ser Leu Leu Leu Arg Asn Ile
130 135 140

Glu Pro Val Val Thr Leu Tyr His Trp Asp Leu Pro Trp Ala Leu Gln
145 150 155 160

Glu Lys Tyr Gly Gly Trp Lys Asn Glu Thr Leu Ile Asp Leu Phe Asn
165 170 175

Asp Tyr Ala Thr Tyr Cys Phe Gln Thr Phe Gly Asp Arg Val Lys Tyr
180 185 190

Trp Ile Thr Ile His Asn Pro Tyr Leu Val Ala Trp His Gly Tyr Gly
195 200 205

Thr Gly Leu His Ala Pro Gly Glu Lys Gly Asn Val Ala Ala Val Tyr
210 215 220

Thr Val Gly His Asn Leu Leu Lys Ala His Ser Lys Val Trp His Asn

```
225                 230                 235                 240

Tyr Asn Arg Asn Phe Arg Pro His Gln Lys Gly Trp Leu Ser Ile Thr
                245                 250                 255

Leu Gly Ser His Trp Ile Glu Pro Asn Arg Ala Glu Ser Ile Val Asp
            260                 265                 270

Ile Leu Lys Cys Gln Gln Ser Met Val Ser Val Leu Gly Trp Phe Ala
        275                 280                 285

Asn Pro Ile His Gly Asp Gly Asp Tyr Pro Glu Val Met Thr Lys Lys
    290                 295                 300

Leu Leu Ser Val Leu Pro Ala Phe Ser Glu Ala Glu Lys Asn Glu Val
305                 310                 315                 320

Arg Gly Thr Ala Asp Phe Phe Ala Phe Ser Phe Gly Pro Asn Asn Phe
                325                 330                 335

Lys Pro Leu Asn Thr Met Ala Lys Met Gly Gln Asn Val Ser Leu Asn
            340                 345                 350

Leu Arg Gln Val Leu Asn Trp Ile Lys Leu Glu Tyr Gly Asn Pro Arg
        355                 360                 365

Ile Leu Ile Ala Glu Asn Gly Trp Phe Thr Asp Ser Tyr Val Gln Thr
    370                 375                 380

Glu Asp Thr Thr Ala Ile Tyr Met Met Lys Asn Phe Leu Asn Gln Val
385                 390                 395                 400

Leu Gln Ala Ile Arg Leu Asp Gly Val Arg Val Phe Gly Tyr Thr Ala
                405                 410                 415

Trp Ser Leu Leu Asp Gly Phe Glu Trp Gln Asp Ala Tyr Asn Thr Arg
            420                 425                 430

Arg Gly Leu Phe Tyr Val Asp Phe Asn Ser Glu Gln Arg Glu Arg Arg
        435                 440                 445

Pro Lys Ser Ser Ala His Tyr Tyr Lys Gln Val Ile Gly Glu Asn Gly
    450                 455                 460

Phe Thr Leu Arg Glu Ala Thr Pro Asp Leu Gln Gly Gln Phe Pro Cys
465                 470                 475                 480

Asp Phe Ser Trp Gly Val Thr Glu Ser Val Leu Lys Pro Glu Ser Val
                485                 490                 495

Ala Ser Ser Pro Gln Phe Ser Asp Pro His Leu Tyr Val Trp Asn Ala
```

```
            500                 505                 510

Thr Gly Asn Arg Met Leu His Arg Val Glu Gly Val Arg Leu Lys Thr
        515                 520                 525

Arg Pro Ala Gln Cys Thr Asp Phe Ile Thr Ile Lys Lys Gln Leu Glu
    530                 535                 540

Met Leu Ala Arg Met Lys Val Thr His Phe Arg Phe Ala Leu Asp Trp
545                 550                 555                 560

Ala Ser Val Leu Pro Thr Gly Asn Leu Ser Glu Val Asn Arg Gln Ala
                565                 570                 575

Leu Arg Tyr Tyr Arg Cys Val Val Thr Glu Gly Leu Lys Leu Asn Ile
            580                 585                 590

Ser Pro Met Val Thr Leu Tyr Tyr Pro Thr His Ala His Leu Gly Leu
        595                 600                 605

Pro Ala Pro Leu Leu His Ser Gly Gly Trp Leu Asp Pro Ser Thr Ala
    610                 615                 620

Lys Ala Phe Arg Asp Tyr Ala Gly Leu Cys Phe Arg Glu Leu Gly Asp
625                 630                 635                 640

Leu Val Lys Leu Trp Ile Thr Ile Asn Glu Pro Asn Arg Leu Ser Asp
                645                 650                 655

Val Tyr Asn Arg Thr Ser Asn Asp Thr Tyr Gln Ala Ala His Asn Leu
            660                 665                 670

Leu Ile Ala His Ala Ile Val Trp His Leu Tyr Asp Arg Gln Tyr Arg
        675                 680                 685

Pro Ser Gln Arg Gly Ala Leu Ser Leu Ser Leu His Ser Asp Trp Ala
    690                 695                 700

Glu Pro Ala Asn Pro Tyr Val Ala Ser His Trp Gln Ala Ala Glu Arg
705                 710                 715                 720

Phe Leu Gln Phe Glu Ile Ala Trp Phe Ala Glu Pro Leu Phe Lys Thr
                725                 730                 735

Gly Asp Tyr Pro Val Ala Met Arg Glu Tyr Ile Ala Ser Lys Thr Arg
            740                 745                 750

Arg Gly Leu Ser Ser Ser Val Leu Pro Arg Phe Ser Asp Ala Glu Arg
        755                 760                 765

Arg Leu Val Lys Gly Ala Ala Asp Phe Tyr Ala Leu Asn His Phe Thr
```

770 775 780

Thr Arg Phe Val Met His Glu Gln Gln Asn Gly Ser Arg Tyr Asp Ser
785 790 795 800

Asp Arg Asp Val Gln Phe Leu Gln Asp Ile Thr Arg Leu Ala Ser Pro
805 810 815

Ser Arg Leu Ala Val Met Pro Trp Gly Glu Gly Lys Leu Leu Arg Trp
820 825 830

Met Arg Asn Asn Tyr Gly Asp Leu Asp Val Tyr Ile Thr Ala Asn Gly
835 840 845

Ile Asp Asp Gln Ala Leu Gln Asn Asp Gln Leu Arg Gln Tyr Tyr Leu
850 855 860

Glu Lys Tyr Val Gln Glu Ala Leu Lys Ala Tyr Leu Ile Asp Lys Ile
865 870 875 880

Lys Ile Lys Gly Tyr Tyr Ala Phe Lys Leu Thr Glu Glu Lys Ser Lys
885 890 895

Pro Arg Phe Gly Phe Phe Thr Ser Asp Phe Lys Ala Lys Ser Ser Ile
900 905 910

Gln Phe Tyr Asn Lys Leu Ile Thr Ser Asn Gly Phe Pro Ser Glu Asn
915 920 925

Gly Gly Pro Arg Cys Asn Gln Thr Gln Gly Asn Pro Glu Cys Thr Val
930 935 940

Cys Leu Leu Leu Leu
945

<210> 149
<211> 950
<212> PRT
<213> Artificial Sequence

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

<400> 149
Asp Tyr Lys Asp Asp Asp Asp Lys Leu Glu Phe Ser Gly Asp Gly Arg
1 5 10 15

Ala Val Trp Ser Lys Asn Pro Asn Phe Thr Pro Val Asn Glu Ser Gln
20 25 30

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

```
Thr Gly Ala Leu Gln Val Glu Gly Ser Trp Lys Lys Asp Gly Lys Gly
    50                  55                  60

Pro Ser Ile Trp Asp His Phe Val His Thr His Leu Lys Asn Val Ser
65                  70                  75                  80

Ser Thr Asn Gly Ser Ser Asp Ser Tyr Ile Phe Leu Glu Lys Asp Leu
                85                  90                  95

Ser Ala Leu Asp Phe Ile Gly Val Ser Phe Tyr Gln Phe Ser Ile Ser
            100                 105                 110

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

Gly Leu Gln Tyr Tyr Asn Thr Leu Leu Asp Ser Leu Val Leu Arg Asn
    130                 135                 140

Ile Glu Pro Ile Val Thr Leu Tyr His Trp Asp Leu Pro Leu Ala Leu
145                 150                 155                 160

Gln Glu Lys Tyr Gly Gly Trp Lys Asn Asp Thr Ile Ile Asp Ile Phe
                165                 170                 175

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

Tyr Trp Ile Thr Ile His Asn Pro Tyr Leu Val Ala Trp His Gly Tyr
        195                 200                 205

Gly Thr Gly Met His Ala Pro Gly Glu Lys Gly Asn Leu Ala Ala Val
    210                 215                 220

Tyr Thr Val Gly His Asn Leu Ile Lys Ala His Ser Lys Val Trp His
225                 230                 235                 240

Asn Tyr Asn Thr His Phe Arg Pro His Gln Lys Gly Trp Leu Ser Ile
                245                 250                 255

Thr Leu Gly Ser His Trp Ile Glu Pro Asn Arg Ser Glu Asn Thr Met
            260                 265                 270

Asp Ile Leu Lys Cys Gln Gln Ser Met Val Ser Val Leu Gly Trp Phe
        275                 280                 285

Ala Ser Pro Ile His Gly Asp Gly Asp Tyr Pro Glu Gly Met Lys Lys
    290                 295                 300

Lys Leu Leu Ser Ile Leu Pro Leu Phe Ser Glu Ala Glu Lys Asn Glu
305                 310                 315                 320
```

```
Val Arg Gly Thr Ala Asp Phe Phe Ala Phe Ser Phe Gly Pro Asn Asn
                325                 330                 335

Phe Lys Pro Leu Asn Thr Met Ala Lys Met Gly Gln Asn Val Ser Leu
            340                 345                 350

Asn Leu Arg Glu Ala Leu Asn Trp Ile Lys Leu Glu Tyr Asn Asn Pro
        355                 360                 365

Arg Ile Leu Ile Ala Glu Asn Gly Trp Phe Thr Asp Ser His Val Lys
    370                 375                 380

Thr Glu Asp Thr Thr Ala Ile Tyr Met Met Lys Asn Phe Leu Ser Gln
385                 390                 395                 400

Val Leu Gln Ala Ile Arg Leu Asp Glu Ile Arg Val Phe Gly Tyr Thr
                405                 410                 415

Ala Trp Ser Leu Leu Asp Gly Phe Glu Trp Gln Asp Ala Tyr Thr Ile
            420                 425                 430

Arg Arg Gly Leu Phe Tyr Val Asp Phe Asn Ser Lys Gln Lys Glu Arg
        435                 440                 445

Lys Pro Lys Ser Ser Ala His Tyr Tyr Lys Gln Ile Ile Arg Glu Asn
    450                 455                 460

Gly Phe Ser Leu Lys Glu Ala Thr Pro Asp Val Gln Gly Gln Phe Pro
465                 470                 475                 480

Cys Asp Phe Ser Trp Gly Val Thr Glu Ser Val Leu Lys Pro Glu Ser
                485                 490                 495

Val Ala Ser Ser Pro Gln Phe Ser Asp Pro Tyr Leu Tyr Val Trp Asn
            500                 505                 510

Ala Thr Gly Asn Arg Leu Leu His Arg Val Glu Gly Val Arg Leu Lys
        515                 520                 525

Thr Arg Pro Ala Gln Cys Thr Asp Phe Val Asn Ile Lys Lys Gln Leu
    530                 535                 540

Glu Met Leu Ala Arg Met Lys Val Thr His Tyr Arg Phe Ala Leu Asp
545                 550                 555                 560

Trp Ala Ser Val Leu Pro Thr Gly Asn Leu Ser Ala Val Asn Arg Gln
                565                 570                 575

Ala Leu Arg Tyr Tyr Arg Cys Val Val Ser Glu Gly Leu Lys Leu Gly
            580                 585                 590
```

```
Ile Ser Ala Met Val Thr Leu Tyr Tyr Pro Thr His Ala His Leu Gly
        595                 600                 605

Leu Pro Glu Pro Leu Leu His Ala Gly Gly Trp Leu Asn Pro Ser Thr
    610                 615                 620

Val Glu Ala Phe Gln Ala Tyr Ala Gly Leu Cys Phe Gln Glu Leu Gly
625                 630                 635                 640

Asp Leu Val Lys Leu Trp Ile Thr Ile Asn Glu Pro Asn Arg Leu Ser
                645                 650                 655

Asp Ile Tyr Asn Arg Ser Gly Asn Asp Thr Tyr Gly Ala Ala His Asn
            660                 665                 670

Leu Leu Val Ala His Ala Leu Ala Trp Arg Leu Tyr Asp Arg Gln Phe
        675                 680                 685

Arg Pro Ser Gln Arg Gly Ala Val Ser Leu Ser Leu His Ala Asp Trp
    690                 695                 700

Ala Glu Pro Ala Asn Pro Tyr Ala Asp Ser His Trp Arg Ala Ala Glu
705                 710                 715                 720

Arg Phe Leu Gln Phe Glu Ile Ala Trp Phe Ala Glu Pro Leu Phe Lys
                725                 730                 735

Thr Gly Asp Tyr Pro Ala Ala Met Arg Glu Tyr Ile Ala Ser Lys His
            740                 745                 750

Arg Arg Gly Leu Ser Ser Ser Ala Leu Pro Arg Leu Thr Glu Ala Glu
        755                 760                 765

Arg Arg Leu Leu Lys Gly Thr Val Asp Phe Cys Ala Leu Asn His Phe
    770                 775                 780

Thr Thr Arg Phe Val Met His Glu Gln Leu Ala Gly Ser Arg Tyr Asp
785                 790                 795                 800

Ser Asp Arg Asp Ile Gln Phe Leu Gln Asp Ile Thr Arg Leu Ser Ser
                805                 810                 815

Pro Thr Arg Leu Ala Val Ile Pro Trp Gly Val Arg Lys Leu Leu Arg
            820                 825                 830

Trp Val Arg Arg Asn Tyr Gly Asp Met Asp Ile Tyr Ile Thr Ala Ser
        835                 840                 845

Gly Ile Asp Asp Gln Ala Leu Glu Asp Asp Arg Leu Arg Lys Tyr Tyr
    850                 855                 860
```

```
Leu Glu Lys Tyr Leu Gln Glu Val Leu Lys Ala Tyr Leu Ile Asp Lys
865                 870                 875                 880

Val Arg Ile Lys Gly Tyr Tyr Ala Phe Lys Leu Ala Glu Glu Lys Ser
                885                 890                 895

Lys Pro Arg Phe Gly Phe Phe Thr Ser Asp Phe Lys Ala Lys Ser Ser
            900                 905                 910

Ile Gln Phe Tyr Asn Lys Met Ile Ser Ser Ser Gly Phe Pro Ser Glu
        915                 920                 925

Asn Ser Ser Ser Arg Cys Ser Gln Thr Gln Lys Asn Thr Glu Cys Thr
    930                 935                 940

Val Cys Leu Phe Leu Ala
945                 950


<210> 150
<211> 950
<212> PRT
<213> Artificial Sequence

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

<400> 150
Asp Tyr Lys Asp Asp Asp Asp Lys Leu Glu Phe Ser Gly Asp Gly Arg
1               5                   10                  15

Ala Val Trp Ser Lys Asn Pro Asn Phe Thr Pro Val Asn Glu Ser Gln
            20                  25                  30

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

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

Pro Ser Ile Trp Asp His Phe Val His Thr His Leu Lys Asn Val Ser
65                  70                  75                  80

Ser Thr Asn Gly Ser Ser Asp Ser Tyr Ile Phe Leu Glu Lys Asp Leu
                85                  90                  95

Ser Ala Leu Asp Phe Ile Gly Val Ser Phe Tyr Gln Phe Ser Ile Ser
            100                 105                 110

Trp Pro Arg Leu Phe Pro Asp Gly Ile Val Thr Val Ala Asn Ala Lys
        115                 120                 125
```

```
Gly Leu Gln Tyr Tyr Asn Ala Leu Leu Asp Ser Leu Val Leu Arg Asn
    130                 135                 140

Ile Glu Pro Ile Val Thr Leu Tyr His Trp Asp Leu Pro Leu Ala Leu
145                 150                 155                 160

Gln Glu Lys Tyr Gly Gly Trp Lys Asn Asp Thr Ile Ile Asp Ile Phe
                165                 170                 175

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

Tyr Trp Ile Thr Ile His Asn Pro Tyr Leu Val Ala Trp His Gly Tyr
        195                 200                 205

Gly Thr Gly Met His Ala Pro Gly Glu Lys Gly Asn Leu Ala Ala Val
    210                 215                 220

Tyr Thr Val Gly His Asn Leu Ile Lys Ala His Ser Lys Val Trp His
225                 230                 235                 240

Asn Tyr Asn Thr His Phe Arg Pro His Gln Lys Gly Trp Leu Ser Ile
                245                 250                 255

Thr Leu Gly Ser His Trp Ile Glu Pro Asn Arg Ser Glu Asn Thr Met
            260                 265                 270

Asp Ile Leu Lys Cys Gln Gln Ser Met Val Ser Val Leu Gly Trp Phe
        275                 280                 285

Ala Asn Pro Ile His Gly Asp Gly Asp Tyr Pro Glu Gly Met Lys Lys
    290                 295                 300

Lys Leu Leu Ser Ile Leu Pro Leu Phe Ser Glu Ala Glu Lys Asn Glu
305                 310                 315                 320

Val Arg Gly Thr Ala Asp Phe Phe Ala Phe Ser Phe Gly Pro Asn Asn
                325                 330                 335

Phe Lys Pro Leu Asn Thr Met Ala Lys Met Gly Gln Asn Val Ser Leu
            340                 345                 350

Asn Leu Arg Glu Ala Leu Asn Trp Ile Lys Leu Glu Tyr Asn Asn Pro
        355                 360                 365

Gln Ile Leu Ile Ala Glu Asn Gly Trp Phe Thr Asp Ser His Val Lys
    370                 375                 380

Thr Glu Asp Thr Thr Ala Ile Tyr Met Met Lys Asn Phe Leu Ser Gln
385                 390                 395                 400
```

```
Val Leu Gln Ala Ile Arg Leu Asp Glu Ile Arg Val Phe Gly Tyr Thr
                405                 410                 415

Ala Trp Ser Leu Leu Asp Gly Phe Glu Trp Gln Asp Ala Tyr Thr Ile
            420                 425                 430

Arg Arg Gly Leu Phe Tyr Val Asp Phe Asn Ser Lys Gln Lys Glu Arg
        435                 440                 445

Lys Pro Lys Ser Ser Ala His Tyr Tyr Lys Gln Ile Ile Arg Glu Asn
    450                 455                 460

Gly Phe Ser Leu Lys Glu Ala Thr Pro Asp Val Gln Gly Gln Phe Pro
465                 470                 475                 480

Cys Asp Phe Ser Trp Gly Val Thr Glu Ser Val Leu Lys Pro Glu Ser
                485                 490                 495

Val Ala Ser Ser Pro Gln Phe Ser Asp Pro Tyr Leu Tyr Val Trp Asn
            500                 505                 510

Ala Thr Gly Asn Arg Leu Leu His Arg Val Glu Gly Val Arg Leu Lys
        515                 520                 525

Thr Arg Pro Ala Gln Cys Thr Asp Phe Val Asn Ile Lys Lys Gln Leu
    530                 535                 540

Glu Met Leu Ala Arg Met Lys Val Thr His Tyr Arg Phe Ala Leu Asp
545                 550                 555                 560

Trp Ala Ser Val Leu Pro Thr Gly Asn Leu Ser Ala Val Asn Arg Gln
                565                 570                 575

Ala Leu Arg Tyr Tyr Arg Cys Val Val Ser Glu Gly Leu Lys Leu Gly
            580                 585                 590

Ile Ser Ala Met Val Thr Leu Tyr Tyr Pro Thr His Ala His Leu Gly
        595                 600                 605

Leu Pro Glu Pro Leu Leu His Ala Gly Gly Trp Leu Asn Pro Ser Thr
    610                 615                 620

Val Glu Ala Phe Gln Ala Tyr Ala Gly Leu Cys Phe Gln Glu Leu Gly
625                 630                 635                 640

Asp Leu Val Lys Leu Trp Ile Thr Ile Asn Glu Pro Asn Arg Leu Ser
                645                 650                 655

Asp Ile Tyr Asn Arg Ser Gly Asn Asp Thr Tyr Gly Ala Ala His Asn
            660                 665                 670
```

```
Leu Leu Val Ala His Ala Leu Ala Trp Arg Leu Tyr Asp Arg Gln Phe
        675                 680                 685

Arg Pro Ser Gln Arg Gly Ala Val Ser Leu Ser Leu His Ala Asp Trp
    690                 695                 700

Ala Glu Pro Ala Asn Pro Tyr Ala Asp Ser His Trp Arg Ala Ala Glu
705                 710                 715                 720

Arg Phe Leu Gln Phe Glu Ile Ala Trp Phe Ala Glu Pro Leu Phe Lys
                725                 730                 735

Thr Gly Asp Tyr Pro Ala Ala Met Arg Glu Tyr Ile Ala Ser Lys His
            740                 745                 750

Arg Arg Gly Leu Ser Ser Ser Ala Leu Pro Arg Leu Thr Glu Ala Glu
        755                 760                 765

Arg Arg Leu Leu Lys Gly Thr Val Asp Phe Cys Ala Leu Asn His Phe
    770                 775                 780

Thr Thr Arg Phe Val Met His Glu Gln Leu Ala Gly Ser Arg Tyr Asp
785                 790                 795                 800

Ser Asp Arg Asp Ile Gln Phe Leu Gln Asp Ile Thr Arg Leu Ser Ser
                805                 810                 815

Pro Thr Arg Leu Ala Val Ile Pro Trp Gly Val Arg Lys Leu Leu Arg
            820                 825                 830

Trp Val Arg Arg Asn Tyr Gly Asp Met Asp Ile Tyr Ile Thr Ala Ser
        835                 840                 845

Gly Ile Asp Asp Gln Ala Leu Glu Asp Asp Arg Leu Arg Lys Tyr Tyr
    850                 855                 860

Leu Glu Lys Tyr Leu Gln Glu Val Leu Lys Ala Tyr Leu Ile Asp Lys
865                 870                 875                 880

Val Arg Ile Lys Gly Tyr Tyr Ala Phe Lys Leu Ala Glu Glu Lys Ser
                885                 890                 895

Lys Pro Arg Phe Gly Phe Phe Thr Ser Asp Phe Lys Ala Lys Ser Ser
            900                 905                 910

Ile Gln Phe Tyr Asn Lys Met Ile Ser Ser Ser Gly Phe Pro Ser Glu
        915                 920                 925

Asn Ser Ser Ser Arg Cys Ser Gln Thr Gln Lys Asn Thr Glu Cys Thr
    930                 935                 940
```

Val Cys Leu Phe Leu Val
945 950

<210> 151
<211> 989
<212> PRT
<213> Artificial Sequence

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

<400> 151
Glu Pro Gly Asp Gly Ala Gln Thr Trp Ala Arg Phe Ser Arg Pro Pro
1 5 10 15

Ala Pro Glu Ala Ala Gly Leu Phe Gln Gly Thr Phe Pro Asp Gly Phe
20 25 30

Leu Trp Ala Val Gly Ser Ala Ala Tyr Gln Thr Glu Gly Gly Trp Gln
35 40 45

Gln His Gly Lys Gly Ala Ser Ile Trp Asp Thr Phe Thr His His Pro
50 55 60

Leu Ala Pro Pro Gly Asp Ser Arg Asn Ala Ser Leu Pro Leu Gly Ala
65 70 75 80

Pro Ser Pro Leu Gln Pro Ala Thr Gly Asp Val Ala Ser Asp Ser Tyr
85 90 95

Asn Asn Val Phe Arg Asp Thr Glu Ala Leu Arg Glu Leu Gly Val Thr
100 105 110

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

Ala Gly Val Pro Asn Arg Glu Gly Leu Arg Tyr Tyr Arg Arg Leu Leu
130 135 140

Glu Arg Leu Arg Glu Leu Gly Val Gln Pro Val Val Thr Leu Tyr His
145 150 155 160

Trp Asp Leu Pro Gln Arg Leu Gln Asp Ala Tyr Gly Gly Trp Ala Asn
165 170 175

Arg Ala Leu Ala Asp His Phe Arg Asp Tyr Ala Glu Leu Cys Phe Arg
180 185 190

His Phe Gly Gly Gln Val Lys Tyr Trp Ile Thr Ile Asp Asn Pro Tyr
195 200 205

```
Val Val Ala Trp His Gly Tyr Ala Thr Gly Arg Leu Ala Pro Gly Ile
    210                 215                 220

Arg Gly Ser Pro Arg Leu Gly Tyr Leu Val Ala His Asn Leu Leu Leu
225                 230                 235                 240

Ala His Ala Lys Val Trp His Leu Tyr Asn Thr Ser Phe Arg Pro Thr
                245                 250                 255

Gln Gly Gly Gln Val Ser Ile Ala Leu Ser Ser His Trp Ile Asn Pro
            260                 265                 270

Arg Arg Met Thr Asp His Ser Ile Lys Glu Cys Gln Lys Ser Leu Asp
        275                 280                 285

Phe Val Leu Gly Trp Phe Ala Lys Pro Val Phe Ile Asp Gly Asp Tyr
    290                 295                 300

Pro Glu Ser Met Lys Asn Asn Leu Ser Ser Ile Leu Pro Asp Phe Thr
305                 310                 315                 320

Glu Ser Glu Lys Lys Phe Ile Lys Gly Thr Ala Asp Phe Phe Ala Leu
                325                 330                 335

Cys Phe Gly Pro Thr Leu Ser Phe Gln Leu Leu Asp Pro His Met Lys
            340                 345                 350

Phe Arg Gln Leu Glu Ser Pro Asn Leu Arg Gln Leu Leu Ser Trp Ile
        355                 360                 365

Asp Leu Glu Phe Asn His Pro Gln Ile Phe Ile Val Glu Asn Gly Trp
    370                 375                 380

Phe Val Ser Gly Thr Thr Lys Arg Asp Asp Ala Lys Tyr Met Tyr Tyr
385                 390                 395                 400

Leu Lys Lys Phe Ile Met Glu Thr Leu Lys Ala Ile Lys Leu Asp Gly
                405                 410                 415

Val Asp Val Ile Gly Tyr Thr Ala Trp Ser Leu Met Asp Gly Phe Glu
            420                 425                 430

Trp His Arg Gly Tyr Ser Ile Arg Arg Gly Leu Phe Tyr Val Asp Phe
        435                 440                 445

Leu Ser Gln Asp Lys Met Leu Leu Pro Lys Ser Ser Ala Leu Phe Tyr
    450                 455                 460

Gln Lys Leu Ile Glu Lys Asn Gly Phe Pro Pro Leu Pro Glu Asn Gln
465                 470                 475                 480
```

```
Pro Leu Glu Gly Thr Phe Pro Cys Asp Phe Ala Trp Gly Val Val Asp
                485                 490                 495

Asn Tyr Ile Gln Val Asp Thr Thr Leu Ser Gln Phe Thr Asp Leu Asn
            500                 505                 510

Val Tyr Leu Trp Asp Val His His Ser Lys Arg Leu Ile Lys Val Asp
        515                 520                 525

Gly Val Val Thr Lys Lys Arg Lys Ser Tyr Cys Val Asp Phe Ala Ala
    530                 535                 540

Ile Gln Pro Gln Ile Ala Leu Leu Gln Glu Met His Val Thr His Phe
545                 550                 555                 560

Arg Phe Ser Leu Asp Trp Ala Leu Ile Leu Pro Leu Gly Asn Gln Ser
                565                 570                 575

Gln Val Asn His Thr Ile Leu Gln Tyr Tyr Arg Cys Met Ala Ser Glu
            580                 585                 590

Leu Val Arg Val Asn Ile Thr Pro Val Val Ala Leu Trp Gln Pro Met
        595                 600                 605

Ala Pro Asn Gln Gly Leu Pro Arg Leu Leu Ala Arg Gln Gly Ala Trp
    610                 615                 620

Glu Asn Pro Tyr Thr Ala Leu Ala Phe Ala Glu Tyr Ala Arg Leu Cys
625                 630                 635                 640

Phe Gln Glu Leu Gly His His Val Lys Leu Trp Ile Thr Met Asn Glu
                645                 650                 655

Pro Tyr Thr Arg Asn Met Thr Tyr Ser Ala Gly His Asn Leu Leu Lys
            660                 665                 670

Ala His Ala Leu Ala Trp His Val Tyr Asn Glu Lys Phe Arg His Ala
        675                 680                 685

Gln Asn Gly Lys Ile Ser Ile Ala Leu Gln Ala Asp Trp Ile Glu Pro
    690                 695                 700

Ala Cys Pro Phe Ser Gln Lys Asp Lys Glu Val Ala Glu Arg Val Leu
705                 710                 715                 720

Glu Phe Asp Ile Gly Trp Leu Ala Glu Pro Ile Phe Gly Ser Gly Asp
                725                 730                 735

Tyr Pro Trp Val Met Arg Asp Trp Leu Asn Gln Arg Asn Asn Phe Leu
            740                 745                 750
```

```
Leu Pro Tyr Phe Thr Glu Asp Glu Lys Lys Leu Ile Gln Gly Thr Phe
        755                 760                 765

Asp Phe Leu Ala Leu Ser His Tyr Thr Thr Ile Leu Val Asp Ser Glu
    770                 775                 780

Lys Glu Asp Pro Ile Lys Tyr Asn Asp Tyr Leu Glu Val Gln Glu Met
785                 790                 795                 800

Thr Asp Ile Thr Trp Leu Asn Ser Pro Ser Gln Val Ala Val Val Pro
                805                 810                 815

Trp Gly Leu Arg Lys Val Leu Asn Trp Leu Lys Phe Lys Tyr Gly Asp
            820                 825                 830

Leu Pro Met Tyr Ile Ile Ser Asn Gly Ile Asp Asp Gly Leu His Ala
        835                 840                 845

Glu Asp Asp Gln Leu Arg Val Tyr Tyr Met Gln Asn Tyr Ile Asn Glu
    850                 855                 860

Ala Leu Lys Ala His Ile Leu Asp Gly Ile Asn Leu Cys Gly Tyr Phe
865                 870                 875                 880

Ala Tyr Ser Phe Asn Asp Arg Thr Ala Pro Arg Phe Gly Leu Tyr Arg
                885                 890                 895

Tyr Ala Ala Asp Gln Phe Glu Pro Lys Ala Ser Met Lys His Tyr Arg
            900                 905                 910

Lys Ile Ile Asp Ser Asn Gly Phe Pro Gly Pro Glu Thr Leu Glu Arg
        915                 920                 925

Phe Cys Pro Glu Glu Phe Thr Val Cys Thr Glu Cys Ser Phe Phe His
    930                 935                 940

Thr Arg Lys Ser Leu Leu Ala Phe Ile Ala Phe Leu Phe Phe Ala Ser
945                 950                 955                 960

Ile Ile Ser Leu Ser Leu Ile Phe Tyr Tyr Ser Lys Lys Gly Arg Arg
                965                 970                 975

Ser Tyr Lys Leu Glu Asp Tyr Lys Asp Asp Asp Asp Lys
            980                 985

<210> 152
<211> 5
<212> PRT
<213> Artificial Sequence

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

peptide"

<400> 152
Ser Thr Tyr Ile Ser
1 5

<210> 153
<211> 17
<212> PRT
<213> Artificial Sequence

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

<400> 153
Glu Ile Asp Pro Tyr Asp Gly Ala Thr Asp Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 154
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 154
Glu His Phe Asp Ala Trp Val His Tyr Tyr Val Met Asp Tyr
1 5 10

<210> 155
<211> 455
<212> PRT
<213> Homo sapiens

<400> 155
Phe Pro Cys Asp Phe Ser Trp Gly Val Thr Glu Ser Val Leu Lys Pro
1 5 10 15

Glu Ser Val Ala Ser Ser Pro Gln Phe Ser Asp Pro His Leu Tyr Val
20 25 30

Trp Asn Ala Thr Gly Asn Arg Leu Leu His Arg Val Glu Gly Val Arg
35 40 45

Leu Lys Thr Arg Pro Ala Gln Cys Thr Asp Phe Val Asn Ile Lys Lys
50 55 60

Gln Leu Glu Met Leu Ala Arg Met Lys Val Thr His Tyr Arg Phe Ala
65 70 75 80

Leu Asp Trp Ala Ser Val Leu Pro Thr Gly Asn Leu Ser Ala Val Asn

```
                85                  90                  95

Arg Gln Ala Leu Arg Tyr Tyr Arg Cys Val Val Ser Glu Gly Leu Lys
            100                 105                 110

Leu Gly Ile Ser Ala Met Val Thr Leu Tyr Tyr Pro Thr His Ala His
        115                 120                 125

Leu Gly Leu Pro Glu Pro Leu Leu His Ala Asp Gly Trp Leu Asn Pro
    130                 135                 140

Ser Thr Ala Glu Ala Phe Gln Ala Tyr Ala Gly Leu Cys Phe Gln Glu
145                 150                 155                 160

Leu Gly Asp Leu Val Lys Leu Trp Ile Thr Ile Asn Glu Pro Asn Arg
                165                 170                 175

Leu Ser Asp Ile Tyr Asn Arg Ser Gly Asn Asp Thr Tyr Gly Ala Ala
            180                 185                 190

His Asn Leu Leu Val Ala His Ala Leu Ala Trp Arg Leu Tyr Asp Arg
        195                 200                 205

Gln Phe Arg Pro Ser Gln Arg Gly Ala Val Ser Leu Ser Leu His Ala
    210                 215                 220

Asp Trp Ala Glu Pro Ala Asn Pro Tyr Ala Asp Ser His Trp Arg Ala
225                 230                 235                 240

Ala Glu Arg Phe Leu Gln Phe Glu Ile Ala Trp Phe Ala Glu Pro Leu
                245                 250                 255

Phe Lys Thr Gly Asp Tyr Pro Ala Ala Met Arg Glu Tyr Ile Ala Ser
            260                 265                 270

Lys His Arg Arg Gly Leu Ser Ser Ser Ala Leu Pro Arg Leu Thr Glu
        275                 280                 285

Ala Glu Arg Arg Leu Leu Lys Gly Thr Val Asp Phe Cys Ala Leu Asn
    290                 295                 300

His Phe Thr Thr Arg Phe Val Met His Glu Gln Leu Ala Gly Ser Arg
305                 310                 315                 320

Tyr Asp Ser Asp Arg Asp Ile Gln Phe Leu Gln Asp Ile Thr Arg Leu
                325                 330                 335

Ser Ser Pro Thr Arg Leu Ala Val Ile Pro Trp Gly Val Arg Lys Leu
            340                 345                 350

Leu Arg Trp Val Arg Arg Asn Tyr Gly Asp Met Asp Ile Tyr Ile Thr
```

```
        355                 360                 365

Ala Ser Gly Ile Asp Asp Gln Ala Leu Glu Asp Asp Arg Leu Arg Lys
    370                 375                 380

Tyr Tyr Leu Gly Lys Tyr Leu Gln Glu Val Leu Lys Ala Tyr Leu Ile
385                 390                 395                 400

Asp Lys Val Arg Ile Lys Gly Tyr Tyr Ala Phe Lys Leu Ala Glu Glu
                405                 410                 415

Lys Ser Lys Pro Arg Phe Gly Phe Phe Thr Ser Asp Phe Lys Ala Lys
            420                 425                 430

Ser Ser Ile Gln Phe Tyr Asn Lys Val Ile Ser Ser Arg Gly Phe Pro
        435                 440                 445

Phe Glu Asn Ser Ser Ser Arg
    450                 455


<210> 156
<211> 36
<212> DNA
<213> Mus sp.

<400> 156
gttaccggct tctccggaga cgggaaagca atatgg                                    36


<210> 157
<211> 52
<212> PRT
<213> Homo sapiens

<400> 157
Met Lys Pro Gly Cys Ala Ala Gly Ser Pro Gly Asn Glu Trp Ile Phe
1               5                   10                  15

Phe Ser Thr Asp Glu Ile Thr Thr Arg Tyr Arg Asn Thr Met Ser Asn
            20                  25                  30

Gly Gly Leu Gln Arg Ser Val Ile Leu Ser Ala Leu Ile Leu Leu Arg
        35                  40                  45

Ala Val Thr Gly
    50


<210> 158
<211> 938
<212> PRT
<213> Mus sp.

<400> 158
Phe Ser Gly Asp Gly Lys Ala Ile Trp Asp Lys Lys Gln Tyr Val Ser
1               5                   10                  15
```

```
Pro Val Asn Pro Ser Gln Leu Phe Leu Tyr Asp Thr Phe Pro Lys Asn
            20                  25                  30

Phe Ser Trp Gly Val Gly Thr Gly Ala Phe Gln Val Glu Gly Ser Trp
        35                  40                  45

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

His Leu Arg Gly Val Asn Gly Thr Asp Arg Ser Thr Asp Ser Tyr Ile
65                  70                  75                  80

Phe Leu Glu Lys Asp Leu Leu Ala Leu Asp Phe Leu Gly Val Ser Phe
                85                  90                  95

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

Ala Ala Val Asn Ala Gln Gly Leu Arg Tyr Tyr Arg Ala Leu Leu Asp
        115                 120                 125

Ser Leu Val Leu Arg Asn Ile Glu Pro Ile Val Thr Leu Tyr His Trp
    130                 135                 140

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

Thr Met Ile Asp Leu Phe Asn Asp Tyr Ala Thr Tyr Cys Phe Gln Thr
                165                 170                 175

Phe Gly Asp Arg Val Lys Tyr Trp Ile Thr Ile His Asn Pro Tyr Leu
            180                 185                 190

Val Ala Trp His Gly Phe Gly Thr Gly Met His Ala Pro Gly Glu Lys
        195                 200                 205

Gly Asn Leu Thr Ala Val Tyr Thr Val Gly His Asn Leu Ile Lys Ala
    210                 215                 220

His Ser Lys Val Trp His Asn Tyr Asp Lys Asn Phe Arg Pro His Gln
225                 230                 235                 240

Lys Gly Trp Leu Ser Ile Thr Leu Gly Ser His Trp Ile Glu Pro Asn
                245                 250                 255

Arg Thr Asp Asn Met Glu Asp Val Ile Asn Cys Gln His Ser Met Ser
            260                 265                 270

Ser Val Leu Gly Trp Phe Ala Asn Pro Ile His Gly Asp Gly Asp Tyr
        275                 280                 285
```

```
Pro Glu Phe Met Lys Thr Gly Ala Met Ile Pro Glu Phe Ser Glu Ala
    290                 295                 300

Glu Lys Glu Glu Val Arg Gly Thr Ala Asp Phe Phe Ala Phe Ser Phe
305                 310                 315                 320

Gly Pro Asn Asn Phe Arg Pro Ser Asn Thr Val Val Lys Met Gly Gln
                325                 330                 335

Asn Val Ser Leu Asn Leu Arg Gln Val Leu Asn Trp Ile Lys Leu Glu
            340                 345                 350

Tyr Asp Asp Pro Gln Ile Leu Ile Ser Glu Asn Gly Trp Phe Thr Asp
        355                 360                 365

Ser Tyr Ile Lys Thr Glu Asp Thr Thr Ala Ile Tyr Met Met Lys Asn
    370                 375                 380

Phe Leu Asn Gln Val Leu Gln Ala Ile Lys Phe Asp Glu Ile Arg Val
385                 390                 395                 400

Phe Gly Tyr Thr Ala Trp Thr Leu Leu Asp Gly Phe Glu Trp Gln Asp
                405                 410                 415

Ala Tyr Thr Thr Arg Arg Gly Leu Phe Tyr Val Asp Phe Asn Ser Glu
            420                 425                 430

Gln Lys Glu Arg Lys Pro Lys Ser Ser Ala His Tyr Tyr Lys Gln Ile
        435                 440                 445

Ile Gln Asp Asn Gly Phe Pro Leu Lys Glu Ser Thr Pro Asp Met Lys
    450                 455                 460

Gly Arg Phe Pro Cys Asp Phe Ser Trp Gly Val Thr Glu Ser Val Leu
465                 470                 475                 480

Lys Pro Glu Phe Thr Val Ser Ser Pro Gln Phe Thr Asp Pro His Leu
                485                 490                 495

Tyr Val Trp Asn Val Thr Gly Asn Arg Leu Leu Tyr Arg Val Glu Gly
            500                 505                 510

Val Arg Leu Lys Thr Arg Pro Ser Gln Cys Thr Asp Tyr Val Ser Ile
        515                 520                 525

Lys Lys Arg Val Glu Met Leu Ala Lys Met Lys Val Thr His Tyr Gln
    530                 535                 540

Phe Ala Leu Asp Trp Thr Ser Ile Leu Pro Thr Gly Asn Leu Ser Lys
545                 550                 555                 560
```

```
Val Asn Arg Gln Val Leu Arg Tyr Tyr Arg Cys Val Val Ser Glu Gly
                565                 570                 575

Leu Lys Leu Gly Val Phe Pro Met Val Thr Leu Tyr His Pro Thr His
            580                 585                 590

Ser His Leu Gly Leu Pro Leu Pro Leu Leu Ser Ser Gly Gly Trp Leu
        595                 600                 605

Asn Met Asn Thr Ala Lys Ala Phe Gln Asp Tyr Ala Glu Leu Cys Phe
    610                 615                 620

Arg Glu Leu Gly Asp Leu Val Lys Leu Trp Ile Thr Ile Asn Glu Pro
625                 630                 635                 640

Asn Arg Leu Ser Asp Met Tyr Asn Arg Thr Ser Asn Asp Thr Tyr Arg
                645                 650                 655

Ala Ala His Asn Leu Met Ile Ala His Ala Gln Val Trp His Leu Tyr
            660                 665                 670

Asp Arg Gln Tyr Arg Pro Val Gln His Gly Ala Val Ser Leu Ser Leu
        675                 680                 685

His Cys Asp Trp Ala Glu Pro Ala Asn Pro Phe Val Asp Ser His Trp
    690                 695                 700

Lys Ala Ala Glu Arg Phe Leu Gln Phe Glu Ile Ala Trp Phe Ala Asp
705                 710                 715                 720

Pro Leu Phe Lys Thr Gly Asp Tyr Pro Ser Val Met Lys Glu Tyr Ile
                725                 730                 735

Ala Ser Lys Asn Gln Arg Gly Leu Ser Ser Ser Val Leu Pro Arg Phe
            740                 745                 750

Thr Ala Lys Glu Ser Arg Leu Val Lys Gly Thr Val Asp Phe Tyr Ala
        755                 760                 765

Leu Asn His Phe Thr Thr Arg Phe Val Ile His Lys Gln Leu Asn Thr
    770                 775                 780

Asn Arg Ser Val Ala Asp Arg Asp Val Gln Phe Leu Gln Asp Ile Thr
785                 790                 795                 800

Arg Leu Ser Ser Pro Ser Arg Leu Ala Val Thr Pro Trp Gly Val Arg
                805                 810                 815

Lys Leu Leu Ala Trp Ile Arg Arg Asn Tyr Arg Asp Arg Asp Ile Tyr
            820                 825                 830
```

```
Ile Thr Ala Asn Gly Ile Asp Asp Leu Ala Leu Glu Asp Asp Gln Ile
        835                 840                 845

Arg Lys Tyr Tyr Leu Glu Lys Tyr Val Gln Glu Ala Leu Lys Ala Tyr
    850                 855                 860

Leu Ile Asp Lys Val Lys Ile Lys Gly Tyr Tyr Ala Phe Lys Leu Thr
865                 870                 875                 880

Glu Glu Lys Ser Lys Pro Arg Phe Gly Phe Phe Thr Ser Asp Phe Arg
                885                 890                 895

Ala Lys Ser Ser Val Gln Phe Tyr Ser Lys Leu Ile Ser Ser Ser Gly
            900                 905                 910

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

Thr Asp Cys Thr Ile Cys Ser Phe Leu Val
    930                 935
```

<210> 159
<211> 53
<212> PRT
<213> Homo sapiens

<400> 159

```
Met Glu Lys Lys Leu His Ala Val Pro Ala Ala Lys Thr Val Lys Phe
1               5                   10                  15

Lys Cys Pro Ser Ser Gly Thr Pro Asn Pro Thr Leu Arg Trp Leu Lys
            20                  25                  30

Asn Gly Lys Glu Phe Lys Pro Asp His Arg Ile Gly Gly Tyr Lys Val
        35                  40                  45

Arg Tyr Ala Thr Trp
    50
```

<210> 160
<211> 34
<212> PRT
<213> Homo sapiens

<400> 160

```
Ser Ser Pro Thr Arg Leu Ala Val Ile Pro Trp Gly Val Arg Lys Leu
1               5                   10                  15

Leu Arg Trp Val Arg Arg Asn Tyr Gly Asp Met Asp Ile Tyr Ile Thr
            20                  25                  30

Ala Ser
```

<210> 161
<211> 34
<212> PRT
<213> Macaca fascicularis

<400> 161
Ser Ser Pro Thr Arg Leu Ala Val Ile Pro Trp Gly Val Arg Lys Leu
1   5   10   15

Leu Arg Trp Val Arg Arg Asn Tyr Gly Asp Met Asp Ile Tyr Ile Thr
            20   25   30

Ala Ser

<210> 162
<211> 34
<212> PRT
<213> Rattus sp.

<400> 162
Ser Ser Pro Ser Arg Leu Ala Val Thr Pro Trp Gly Met Arg Lys Leu
1   5   10   15

Leu Gly Trp Ile Arg Arg Asn Tyr Arg Asp Met Asp Ile Tyr Val Thr
            20   25   30

Ala Asn

<210> 163
<211> 34
<212> PRT
<213> Mus sp.

<400> 163
Ser Ser Pro Ser Arg Leu Ala Val Thr Pro Trp Gly Val Arg Lys Leu
1   5   10   15

Leu Ala Trp Ile Arg Arg Asn Tyr Arg Asp Arg Asp Ile Tyr Ile Thr
            20   25   30

Ala Asn

<210> 164
<211> 34
<212> PRT
<213> Unknown

<220>
<221> source
<223> /note="Description of Unknown: Rabbit
      polypeptide"

<400> 164
Ala Ser Pro Ser Arg Leu Ala Val Met Pro Trp Gly Glu Gly Lys Leu
1   5   10   15

Leu Arg Trp Met Arg Asn Asn Tyr Gly Asp Leu Asp Val Tyr Ile Thr
            20   25   30

Ala Asn

<210> 165
<211> 17
<212> PRT
<213> Mus sp.

<400> 165
Phe Ser Gly Asp Gly Lys Ala Ile Trp Asp Lys Lys Gln Tyr Val Ser
1   5   10   15

Pro

<210> 166
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 166
Phe Ser Glu Thr Gly Lys Gln Tyr Gly Ile Lys Asn Ser Thr
1   5   10